Promulgation Details for 1 RCNY 5000-01

This rule became effective on September, 7, 2010.

Since such date, one or more amendments have been made to this rule. Each rule amendment has its own effective date and Statement of Basis and Purpose.

Below you will find one or more rule amendments (the most recent appearing at the top), followed by the original rule.

The effective date of each amendment and the original rule can be found at the top of each "NOTICE OF ADOPTION OF RULE."

This rule has an effective date of 8-23-20

NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of the Department of Buildings by Section 643 of the New York City Charter and in accordance with Section 1043 of the Charter, that the Department of Buildings hereby adopts the amendments to Sections 5000-01, 5000-02, and 101-07 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding the implementation of the New York City Energy Conservation Code to conform to changes in the New York City Energy Conservation Code that were necessitated by updates to the New York State Energy Code.

This rule was published in the City Record on June 1, 2020 and a virtual public hearing was held on July 1, 2020.

Dated: 7/16/2020
New York, New York

Melanie E. La Rocca
Commissioner

Statement of Basis and Purpose

New York City Council's Local Law 48 of 2020 (LL 48) was enacted on March 29, 2020, and went into effect on May 12, 2020. LL 48 updates the New York City Energy Conservation Code ("City Energy Code") to comply with the requirements of the State Energy Law and the 2020 updates to the New York State Energy Conservation Construction Code ("State Energy Code").

This rule amends 1 RCNY 5000-01, 5000-02 and 101-07 to conform to the City Energy Conservation Code and to implement code requirements.

This rule amends the referenced rules as follows:

1 RCNY 5000-01

- adds and removes progress inspections to correspond to City Energy Code requirements that come into effect with Local Law 48 of 2020, including two new required progress inspections related to electric vehicle equipment-ready requirements and expanded air sealing and insulation testing.
- clarifies which versions of REScheck and COMcheck may be used to demonstrate compliance with the City Energy Code.
- clarifies the requirements for submitting supporting documentation.

1 RCNY 5000-02

- clarifies that 1 RCNY 5000-02 only applies to the 2016 NYCECC Appendix CA, which are the NYC amendments to ASHRAE 90.1-2013.

1 RCNY 101-07

- provides a definition for a qualified commissioning agent.
- clarifies the required documentation for progress inspection reports.
- clarifies that progress inspectors are not required to revise approved construction documents where the performance value of a given space or system is more efficient than the performance value on the approved construction documents.
- clarifies the requirements for approved agencies performing commissioning in accordance with the City Energy Code.

The proposed rule also includes plain language revisions.

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 Law 48.

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 48 authorizes DOB to promulgate rules implementing the changes to the City Energy Code. Section 3 of Local Law 48 repeals and replaces section 28-1001.2 of the Administrative Code, and includes authority for DOB to issue this proposed rule.

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 (b) of section 5000-01 of Chapter 5000 of title 1 of the rules of the city of New York is amended to read as follows:

(b) *References.* See 2020 New York City Energy Conservation Code (Administrative Code Sections 28-1001.1 et seq.); 2020 New York State Energy Conservation Construction Code (19 NYCRR part 1240); Administrative Code Section 28-104.7.9, Sections BC107.13 and BC110.3.5, Mechanical Code, and Fuel Gas Code; 1 RCNY §101-07 ("Approved Agencies").

§2. Subdivision (c) of section 5000-01 of Chapter 5000 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]mean:

ABOVE-GRADE WALL. An above-grade wall as defined in the Energy Code. This definition differs in the residential provisions and the commercial provisions of the Energy Code.

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 90.1-2013 as defined in the New York State Energy Conservation Construction Code and amended by Appendix CA of the Energy Code] ASHRAE 90.1-2016 (as amended) as defined in 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.

GRADE PLANE. A grade plane as defined in the Energy Code. This definition differs from the Building Code definition of Grade Plane.

HISTORIC BUILDING. An historic building as [described] defined in the 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.

STORY. A story as defined in the Energy Code. This definition differs from the Building Code definition of Story.

STORY ABOVE GRADE PLANE. A story above grade plane as defined in the Energy Code. This definition differs from the Building Code definition of Story Above Grade Plane.

SUSTAINABLE ROOFING ZONE. A sustainable roofing zone as defined in Chapter 15 of the Building Code. Note that this is a Building Code requirement and not an Energy Code requirement.

THERMAL BRIDGE. A thermal bridge as defined in the Energy Code.

§3. Subdivision (d) of section 5000-01 of Chapter 5000 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) *Residential building projects.* All applications related to a single residential building project must follow ECC Chapters R2 through R6.

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

(i) *ECC Compliance Path.* Vertical fenestration is allowed up to 30% of the gross above-grade wall area, prescriptively. Commercial buildings with vertical fenestration exceeding 30% of the above-grade wall must provide daylighting controls in required daylight zones in accordance with ECC provisions to a maximum fenestration area of 40% of the gross above-grade wall area. Alternatively, commercial buildings with vertical fenestration exceeding the prescriptive requirements for maximum vertical fenestration area may show compliance using the Component Alternative Method in Section C402.1.5, through the use of COMcheck.

(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").

(iii) *Additional requirements in Section 11 and Appendix G.* For new buildings 25,000 square feet and greater in area, and which follow Section 11 or Appendix

G, additional requirements must be satisfied to demonstrate compliance with Section 5.2.3. The building envelope must comply with either Section 5.5 of ASHRAE 90.1 ("Prescriptive Building Envelope") or the applicant must calculate an envelope performance factor in accordance with Appendix C of ASHRAE 90.1 that meets certain thresholds dependent on the occupancy of the building.

[(3)](4) *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.

§4. Paragraph (2) of subdivision (e) of section 5000-01 of Chapter 5000 of title 1 of the rules of the city of New York is amended to read as follows:

(2) *Exemption*. Only applications that consist entirely of work exempt from the Energy Code may indicate exemption in the professional statement. The application must state one of the following bases for exemption:

(i) *Historic building.* Any alteration to an historic building is exempt. Any addition to an historic building is not exempt, and must meet the requirements of the ECC for new construction.

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

(iii) *Categories of work not affecting energy use.* Temporary structures (as described in sections 28-111 and BC 3103) are exempt from compliance with the Energy Code. In addition, the following work types are exempt: fire alarm, fire suppression in a range hood, standpipe, sprinkler, fuel storage, construction equipment, curb cut, fire protection plan, sidewalk shed, supported scaffold, fence, place of assembly, temporary place of assembly, earthwork, support of excavation, builder's pavement plan, protection means and methods, suspended scaffold, subdivision, full demolition, and cranes. Other work types are not exempt.

[(A) FA (fire alarm)
(B) FP (fire suppression in a range hood)
(C) SD (standpipe)
(D) SP (sprinklers)
(E) FS (fuel storage)
(F) EQ (construction equipment)
(G) CC (curb cut)
(H) OT/BPP (builder's pavement plan)
(I) OT/FPP (fire protection plan)]

(iv) *Post-approval amendment.* A post-approval amendment for a job that was exempt under a prior edition of the Energy Code.

§5. Subdivision (f) of section 5000-01 of Chapter 5000 of title 1 of the rules of the city of New York is 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]must 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 C6 or with ASHRAE 90.1.

(1) *Accepted formats for energy analysis*. [One of the]Tabular analysis along with COMcheck or REScheck may be used for different disciplines in the same application, as long as the compliance paths are identical. 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 Chapters R2 through R6, ECC Chapters C2 through C6 or ASHRAE 90.1 has been used, and the applicant is complying prescriptively, the applicant may [create] include a table entitled "Energy Analysis" as described in figure 1.

Such table [shall]must 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]must be organized by discipline, including Envelope Systems, Mechanical and Service Water Heating Systems, 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.

Figure 1: Sample tabular energy analysis:

ENERGY ANALYSIS Code chapter and/or standard used for design Climate Zone 4A			
Item Description	**[Proposed Design Value]Code Prescriptive Value & Citation**	**[Code Prescriptive Value & Citation] Proposed Design Value**	**Supporting Documentation**
(List all elements of the scope of work in the detail that they are addressed by the energy code.)	[(List the value used in the design.)]List the prescriptive value required by the Energy Code and provide the citation for such value.	[(List the prescriptive value required by the Energy Code and provide the citation for such value.)]List the value used in the design.	Indicate where in the drawing set the information is to be found.

(ii) *REScheck Software Program*. The REScheck software program available from the United States Department of Energy website may be used for residential buildings as follows:

(A) *New buildings*. REScheck may be used for new residential buildings.

(B) *Additions.* REScheck may be used for additions [only where a whole-building analysis, including the existing building and the addition, is performed]. Only the new portions of the building shall be input into the software.

(C) *Alterations and repairs.* REScheck may be used for alterations and repairs [only where a whole-building analysis, including the existing-to-remain and altered envelope and mechanical systems, is performed]. Only the components being altered shall be input into the software.

(D) *REScheck version*.

[1. Only the New York City version of the REScheck form is permitted.]

[2.]1. For applications filed on or after [October 3, 2016]May 12, 2020, the report must specify the [2016] 2020 New York City Energy Conservation Code.

[3.]2. For applications filed before [October 3, 2016]May 12, 2020, the report must specify the edition of REScheck that matches the edition of the [Energy Conservation Construction Code of New York State]New York City Energy Conservation Code in effect when the application was filed. If a New York City-specific version is no longer supported, the report must specify the applicable IECC version of the software.

(iii) *COMcheck Software Program*. The COMcheck software program available from the United States Department of Energy website may be used for commercial buildings as follows:

(A) *New buildings*. COMcheck may be used for new commercial buildings.

(B) *Additions.* COMcheck may be used for additions [only as follows:

1. Where a whole-building analysis, including the existing building and the addition, is performed; or

2. Where the COMcheck report states "addition" as the project type].

Only the new portions of the building shall be input into the software.

(C) *Alterations and repairs.* COMcheck may be used for alterations and repairs [only as follows:

1. Where a whole-building analysis, including the existing-to-remain and altered parts of the building, is performed; or

2. Where the COMcheck report states "alteration" as the project type].

Only the components being altered shall be input into the software.

(D) *COMcheck version*.

1. [Only the New York City version of the COMcheck 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.] For applications filed on or after May 12, 2020, the report must specify the edition of COMcheck that matches the edition of the

New York City Energy Conservation Code or ASHRAE 90.1 in effect when the application was filed.

2. For applications filed [on or after October 3, 2016,] before May 12, 2020, the report must specify the edition of COMcheck that matches the edition of the New York City Energy Conservation Code [or New York City amended ASHRAE 90.1.] in effect when the application was filed. [In the event that]If a New York City-specific version is no longer supported, the report must specify the applicable IECC or ASHRAE 90.1 version of the software, as determined by the Department.

(iv) *Energy modeling* [*based on DOE2*]. For new commercial buildings and additions or alterations to commercial buildings, where [trade-offs among disciplines and/or] the performance path [are] is used in accordance with ASHRAE 90.1 section 11 or Appendix G, an energy modeling program developed by the United States Department of Energy, including DOE2 or updates of DOE2, shall be used; such updates include DOE2.1E, VisualDOE, EnergyPlus and eQuest.

Other energy modeling programs must be approved by the Secretary of State of New York State and the commissioner. The commissioner may at his or her discretion require the energy modeling report to be submitted to the Department.

All applications must provide a Supporting Documentation Index indicating the mandatory measures, an energy modeling form, and energy modeling reports.

Additional envelope requirements for buildings 25,000 square feet and greater. Additionally, for applications 25,000 square feet and greater, a ComCheck Envelope Compliance Certificate, using ASHRAE 90.1, must be submitted along with the energy modeling reporting to ensure compliance with additional envelope provisions.

(v) *Alternative formats.* Formats other than those listed in subparagraphs (i) through (iv) of this paragraph, including, but not limited to, the home energy software programs described in section ECC 101.5.1, may be used for a project only if they are approved in advance by both the Secretary of State of New York State and the commissioner.

(2) *Mixed-occupancy buildings three stories or fewer.* In accordance with section ECC 101.4.1, buildings three stories or fewer above grade plane with mixed residential and non-residential occupancies must comply with the respective requirements of Chapters R2 through R6 and Chapters C2 through 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.

(3) *Build-outs of tenant space prior to issuance of new building certificate of occupancy.* The energy analysis for any alteration application for a build-out of a new building tenant space before the final certificate of occupancy is issued must be consistent with the [energy analysis] compliance path for the new building. Such energy analysis for the new building must be provided upon request.

(4) *Professional responsibility for energy analysis.* The energy analysis [shall]must be signed and sealed by registered design professional(s).

(i) *Election.* The project team must elect one of the following methods for performing the energy analysis:

(A) *Responsibility by discipline.* Where each system of the energy analysis – envelope, mechanical/service water heating and lighting/power – meets the prescriptive requirements of the Energy Code individually, different registered design professionals may sign and seal their respective parts of the energy analysis report and include them as follows:

1. If all such systems are filed with the Department under the same application number, each registered design professional may include his or her part of the energy analysis in his or her respective parts of the project construction drawings.

2. If such systems are filed with the Department under different application numbers, [all] each part[s] of the energy analysis [shall be filed in the initial application for the project] in the related applications must utilize the same compliance path; except that in the case of foundation and earthwork permits issued pursuant to section 28-104.2.5, the energy analysis for the new building project must be submitted with subsequent construction documents. Refer also to paragraph (5) of this subdivision.

(B) *Lead professional.* Where energy modeling (whole-building analysis) is performed for the energy analysis [or where the project design uses tradeoffs among disciplines such that one or more systems of the energy analysis –] and the envelope, mechanical/service water heating and lighting/power [– could] do not meet the prescriptive [or performance] requirements of the Energy Code on [its]their own, a lead professional must be identified who must sign and seal the entire energy analysis for all systems involved.

The energy modeling program must be based on [the DOE2] energy modeling software in accordance with subparagraph (iv) of paragraph (1) of this subdivision. The energy analysis must be presented in the construction drawings for one application only. The lead professional must be a registered design professional and need not be a design applicant.

(ii) *Registered design professional other than a design applicant.* A registered design professional other than a design applicant may prepare, sign and seal the energy analysis, either as lead professional or for individual discipline(s) in accordance with subparagraph (i) of this paragraph. [Such registered design professional shall file a PW1 form as a subsequent filing and indicate "Energy" or "Electrical" as applicable in Section 6D, OT – Other.]

(5) *Foundation and earthwork permits.* When phased or partial approval is requested by the applicant for the purpose of issuance of a foundation and earthwork permit in accordance with §28-104.2.5 of the Administrative Code, a tabular analysis must be filed showing the foundation insulation requirements of the ECC. Refer also to subclause 2 of clause (A) of subparagraph (i) of paragraph (4) of this subdivision.

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

(g) *Supporting documentation.* The construction drawings submitted for approval [shall]must provide all energy design elements and [shall]must 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]must be listed in a table that serves as an indexing guide to the construction document set. Such table [shall]must 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] as shown in the Tabular Analysis described in figure 1.

Figure 2: Sample Supporting Documentation Index:

SUPPORTING DOCUMENTATION INDEX Code chapter and/or standard used for design Climate Zone 4A		
Code Section	**Item Description**	**Supporting Documentation Location**
[(]List specific code section[)]	[(]List all elements of the scope of work in the detail that they are addressed by the energy code.[)]	[(]List the drawing page number and/or section title.[)]

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

For additions, the construction documents must clearly show in the supporting documentation, the new construction as it relates to existing conditions. For alterations, the construction documents must clearly show in the supporting documentation those physical portions of the systems that are being brought up to code and those that are not being altered.

Further, supporting documentation [shall]must 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.]
In addition, other mandatory Energy Code requirements must be provided as described in paragraphs (1) through (7) of this subdivision. This is not an exhaustive list.

(1) *Envelope.* Building wall sections and details [shall]must 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]must be labeled and [shall]must be equal to or greater than the R values, and an assembly in each case [shall]must be equal to or less than the assembly U-factors, in the energy analysis.

(i) *Fenestration.* Door, window and skylight schedules [shall]must include columns for U-factor, VT and SHGC values for each fenestration assembly type, and such values [shall]must be equal to or less than those in the energy analysis. For commercial buildings, the building elevation must indicate a demarcation line at 95 feet. Fenestration located below 95 feet must be clearly identified on construction

documents. For any portion of a fenestration assembly that is above 95 feet, the entire fenestration assembly may comply with the U-factor requirements for fenestration 95 feet and above. Mandatory requirements to prevent air leakage shall be detailed.

(ii) Spandrel assemblies. Spandrel assemblies are considered opaque walls. The U-factor for the proposed design must be that which is defined in the Energy Code, according to the frame type, spandrel assembly, and rated R-value of insulation between framing members. If a spandrel assembly is not described within the Energy Code, or contains insulation values outside of the range of rated R-values, the designer will be required to provide simulation of the wall assembly, using software such as THERM.

(iii) Thermal bridging. Construction documents must include information on clear field, point, and linear thermal bridges. Clear field thermal bridges, such as brick ties, cladding, studs, must be de-rated using Appendix A of ASHRAE 90.1. If the assembly is not identified in Appendix A of 90.1, such as Z-girts, then these assemblies must be noted in the drawings, accompanied by supporting documentation indicating the de-rated value. Individual point thermal bridges, such as structural beam penetration through insulation, larger than 12in^2 in commercial buildings and larger than 8in^2 in residential buildings must be identified on the construction documents. Linear thermal bridges specifically identified in the ECC, such as shelf angles, slab edges, balconies, parapets, window interfaces, must be identified both on elevation plans and in a tabular format as shown in figure 3. Each linear thermal bridge type must have a relevant detail showing the cross-section through the thermal bridge.

Figure 3: Sample Linear Thermal Bridge Documentation

Linear Thermal Bridge Type	**Total Length**	**Detail Location**	**Ψ-value**
List all applicable thermal bridges that are identified in Table C402.6, R402.6 or 90.1 Table 5.4.4	List aggregate length of each type of thermal bridge.	List the drawing page number and/or section title.	List unmitigated Ψ-value directly from Table C402.6, R402.6 or 90.1 Table 5.4.4. Alternatively, provide Ψ-value with supporting documentation and/or calculations, if differing from default value above.

(2) *Mechanical/service water heating.* Mechanical system design criteria, and mechanical and service water heating system and equipment types, sizes and efficiencies shall be provided with coordinated naming convention between the mechanical schedule and the

energy analysis. For commercial buildings, the total installed space cooling capacity, the total installed space heating capacity, and the total installed service hot water capacity must be listed on the drawings. For all new construction, the ventilation system design must be included in the construction documents in accordance with the requirements in the ECC.

Space heating and cooling equipment, energy recovery equipment, economizers, ventilation equipment, service water heating equipment, and mandatory requirements including control systems, duct sealing and duct and piping insulation [shall]must be shown on the construction drawings and [shall]must be equal to or greater than the energy efficiency requirements established in the energy analysis, the Energy Code and/or this section, as applicable. A narrative [shall]must be provided for each mandatory control system describing its function and operation and specifying proper setpoints of equipment and controls.

For new buildings, the construction documents must indicate the method of compliance for the supply of heated water and clearly show the service water heating distribution system meeting the specified requirements. Sloped drain water heat recovery units that comply with IAPMO PS 92 and are tested and labeled in accordance with IAPMO 346, are deemed to comply.

(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, elevator, commercial kitchen equipment, 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.] in a form and manner prescribed by the commissioner.

(i) *Interior and exterior lighting.* Supporting documentation for lighting must be as follows:

(A) *Commercial buildings, except within dwelling units.* The applicant [shall]must 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. Control devices and zones shall be indicated on drawings.

The lighting fixtures [shall]must 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] Lighting controls [shall]must be shown and described on a schedule, 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 C405.5.2(1)] Table C405.4.2(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) *Electrical motors and controls*. Electrical motor horsepower and controls must be shown on the drawings and described.

(iv) [*Electrical submetering]Metering.* 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. Projects requiring whole building fuel use metering must clearly indicate on the drawings that whole building fuel use metering will be provided in accordance with the Energy Code.

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

(vi) *Electric vehicle service equipment capable.* New residential buildings with parking areas must indicate on the construction documents the method of compliance for the future installation of electric vehicle service equipment in accordance with the Energy Code and the Building Code, as applicable.

(vii) Elevators and escalators. For applications with elevators, the construction documents must provide the efficiency class and usage category. For new building applications with elevator shafts rising 75 feet or more must provide documentation showing compliance with regenerative drives, as applicable. For applications with escalator installations must provide documentation showing compliance with regenerative drives, as applicable.

(viii) *Commercial kitchen equipment.* For applications with certain commercial kitchen equipment, the construction documents must provide the type of equipment, the minimum performance value, and the design specification value in accordance with the ECC.

(4) *Permanent certificate in residential buildings.* For residential buildings and commercial R-3 buildings, the construction documents must indicate the following in accordance with Section ECC R401.3:

(i) *New buildings.* For new buildings, a permanent certificate must be installed indoors and in accordance with Sections ECC R401.3, 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 must be updated, initialed where changed and reposted such that the values on the posted permanent certificate remain current. For additions and alterations where a permanent certificate was not previously required, a new permanent certificate must be provided with the values applicable to the scope of work and posted on a permanent certificate that complies with the new building requirements.

[(4) *Mandatory*](5) *Other mandatory requirements.* The construction documents [shall]must comply with all mandatory requirements of the Energy Code.

(i) For residential buildings, references for such requirements are listed throughout Chapters R2 through [R5]R6.

(ii) For commercial buildings complying with the provisions of ECC Chapters C2 through [C5]C6, references for such requirements are [listed]set forth throughout Chapters C2 through [C5] C6; for commercial buildings complying with ASHRAE 90.1, such requirements are set forth throughout the [referenced] standard.

(iii) *Commissioning* [*statement.*]*documentation requirements.* The construction documents for each commercial building must show the following:

(A) Professional 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 or ASHRAE 90.1 [shall]must include a statement of either compliance with or exemption from the commissioning requirements of the Energy Code.[as described in ECC C408.] The total installed space cooling capacity, the total installed space heating capacity and the total installed service hot water capacity must be listed on the drawings, as well as all the building systems that require commissioning, as applicable. For alteration applications, the total connected load of the HVAC distribution equipment that is within the scope of work must be listed on the drawings.

(B) *Commissioning Plan.* The commissioning plan requirements may be described in the construction documents, or the construction documents may refer to specifications. The specifications may be requested by the department.

(C) *Equipment specifications*. The construction documents must show the location of all equipment requiring commissioning, along with the performance data for each piece of equipment.

(D) *Operating and maintenance manual.* A statement that the owner shall receive an operating and maintenance manual for the HVAC equipment requiring commissioning within 90 days of the date of receipt of the Certificate of Occupancy or letter of completion.

(E) *Balancing report.* A statement that the owner shall receive a systems balancing report for the HVAC equipment requiring commissioning within 90 days of the date of receipt of the Certificate of Occupancy or letter of completion.

(iv) Air leakage and 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/ft^2. Air barrier testing, when required, must be performed by a third-party independent of the contractor and acceptable to the department.] The construction documents for each new building or additions greater than 10,000 square feet in area must provide information relating to the air barrier testing compliance with the Energy Code. A continuous air barrier location be shown on the elevation and section drawings and in each envelope assembly detail.

(A) Residential buildings. New buildings required to comply with the residential provisions of the Energy Code, must include a statement of compliance with the air leakage rate testing requirements of the Energy Code.

(B) Commercial buildings. New buildings or additions, required to comply with the commercial provisions of the Energy Code, must indicate compliance with one of the following three air barrier requirements:

1. *Visual inspection.* Only commercial buildings less than 10,000 square feet may comply with visual inspection. The continuous air barrier for the opaque envelope must indicate compliance with the material or assemblies in the Energy Code.

2. *Whole building air barrier testing.* Buildings 10,000 square feet and greater, but less than 50,000 square feet and 75 feet in height or less must include a statement of compliance with the air leakage rate testing requirements of the Energy Code. For buildings not required to comply with testing, and instead choose to comply voluntarily with whole building air barrier testing must include a statement of compliance with the air leakage rate testing requirements of the Energy Code.

3. *Air barrier continuity plan.* Buildings 10,000 square feet and greater but less than 50,000 square feet, which are greater than 75 feet in height, and for buildings greater than 50,000 square feet

must include a statement of compliance with the Air Barrier Continuity Plan requirements of the Energy Code. The construction documents must indicate each unique air barrier joint or seam to be tested along with the recommended method of testing.

[(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 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.]

(6) Deferred submittals. Drawings showing design intent and performance criteria matching those in the energy analysis may be submitted as supporting documentation provided that, in accordance with Section 28-104.2.6 of the Administrative Code, the applicant lists such deferred submittals in the construction drawings and submits them for approval prior to installation or construction. If required, the energy analysis must be updated when deferred submittals are provided for approval.

(7) Required progress inspections. Supporting documentation [shall also]must set forth all applicable required progress inspections in accordance with the Energy Code, 1 RCNY §101-07 and this section.

(i) Applicant's instructions regarding required progress inspections. Progress inspections required to be performed during construction for any new building, addition or alteration project [shall]must be identified by the design applicant according to the scope of work and listed and described in the approved construction drawings as required progress inspections.

The description [shall set forth]must show the standard of construction and the inspection criteria as appropriate for the scope of work in accordance with Table I or Table II of subdivision (h) of this section, as applicable; simple reference to the citations provided, without such description, is not sufficient.

The applicant [shall]must include the instruction that, in accordance with [Section BC 110.9] Chapter 1 of the Building Code and ECC 104.2.3, where an inspection or test fails, the construction [shall]must be corrected and must be made available for reinspection and/or retesting by the progress inspector until it complies.

For additions and alterations, the applicant must clearly indicate what portions of the altered systems [should]must be inspected and/or tested, and what inspection and/or testing may be outside the scope of the work.

(ii) Construction scheduling instructions. The drawings [shall]must state that, in accordance with Article 116 of Title 28 and Section BC 110, construction

[shall]must be scheduled to allow required progress inspections to take place, and that roofs, ceilings, exterior walls, interior walls, floors, foundations, basements and any other construction shall not be covered or enclosed until required progress inspections are completed or the progress inspector indicates that such covering or enclosure may proceed, at each stage of construction, as applicable.

(iii) Commercial building reference standards and citations. Progress inspection reference standards and citations [shall]must conform to the respective requirements of ECC Chapters C2 through C5 or ASHRAE 90.1 as used for design, in accordance with the following:

(A) When ECC Chapters C2 through C5 have been used for the project design, as reflected in the energy analysis, the applicant [shall]must list on the drawings the respective references and citations for ECC for the progress inspection.

(B) When ASHRAE 90.1 has been used for the project design, as reflected in the energy analysis, the applicant [shall]must list on the drawings the respective references and citations for ASHRAE 90.1 for the progress inspection.

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

(1) *Residential buildings.* The progress inspections and tests described in Table I [shall]must be performed for buildings regulated by ECC Chapters [R4]R2 through R6. For heating, cooling and/or service hot water systems in multiple dwellings, including where such systems serve a single dwelling unit, the applicant [shall]must list inspections, tests and citations from Table II, in accordance with Section ECC 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]must 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	R303.2.1

IA2	**Insulation placement and R-values**: Installed insulation for each component of the conditioned space envelope and at junctions between components, including thermal bridges and heated slab insulation, [shall]must 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]must be similarly visually inspected.	As required to verify continuous enclosure while walls, ceilings and floors are open	Approved construction documents	R303.1, [R303.1.1,] [R303.1.2,] R303.2, [R402.1,] R402.1.2 R402.2, Table R402.4.1.1, R402.4.4, R402.6
IA3	**Fenestration and door U-factor and product ratings**: U-factors, SHGC and VT values of installed fenestration [shall]must 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 R303.1.3(1), [and] (2), and (3).	As required during installation	Approved construction drawings; NFRC 100, NFRC 200, ANSI/DASMA 105	R303.1, R303.1.3, R402.1, R402.3, R402.5
IA4	**Fenestration air leakage**: Windows, skylights and sliding glass doors, except site-built windows, skylights and doors, [shall]must 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/A440	R402.4.3
IA5	**Fenestration areas**: Dimensions of windows, doors and skylights [shall]must be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	R402.3
IA6	**Air [sealing and insulation] barrier – visual inspection**: Openings and penetrations in the building envelope, including site-built fenestration and doors, [shall]must be visually inspected to verify that they are properly sealed, in accordance with Table R402.4.1.1.	As required during envelope construction	Approved construction documents; ASTM E283;	R402.4.1, R402.4.4, R402.4.5, R402.4.6
IA7	**Air [sealing and insulation] barrier – testing**: Testing [shall]must be performed in accordance with section ECC R402.4.1.2 or R402.4.1.3 and shall be accepted if the building meets the requirements detailed in such section. Test results [shall]must be retained in accordance with the provisions of Title 28 of the Administrative Code. Testing must be performed by a third-party	Prior to final construction inspection	ASTM E779; ASTM 1827; ANSI/BOMA Z65.1; RESNET/ICC 380; Approved construction documents	R402.4.1.2, R402.4.1.3

	independent of the contractor and acceptable to the department.			
IB	**Mechanical and Plumbing Inspections**			
IB1	**Fireplaces**: Provision of combustion air and tight-fitting fireplace doors [shall]must be verified by visual inspection.	Prior to final construction inspection	Approved construction documents; UL 127[, UL 907, ANSI Z21.60 (see also MC 904), ANSI Z21.50]	R402.4.2[;], BC 2111; MC Chapters 7, 8, 9; FGC Chapter 6
IB2	**[Shutoff dampers]Ventilation and air distribution system**: Ventilation system must be verified to comply with the ERV/HRV requirements or balanced ventilation system. Whole-house ventilation fan efficacy must be verified by visual inspection. Not less than 20% of installed automatic or gravity dampers, and a minimum of one of each type, [shall]must be visually inspected and physically tested for proper operation.	Prior to final construction inspection	Approved construction documents; HVI Standard 916; ANSI/ACCA 9Qlvp-2016	R403.6, R403.8, C403, C404
IB3	**HVAC and service water heating equipment**: Heating and cooling equipment [shall]must 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 J and S; Approved construction documents, including energy analysis	[R403] R403.7, R403.8, R403.10, R403.11, R403.12, C403, C404
IB4	**HVAC and service water heating system controls**: System controls [shall]must be inspected to verify that each dwelling is provided with at least one individual programmable thermostat with capabilities as described in ECC R403.1.1, and that such controls are set and operate as specified in ECC R403.1.1. Controls for supplementary electric-resistance heat pumps [shall]must 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	[R403,] R403.1, R403.2, R403.5, C403, C404

	Controls for whole-house mechanical ventilation (balanced ventilation option) shall enable manual override. Controls for snow- and ice-melting systems and pools [shall]must be inspected for proper operation. Not less than 20% or one of each control type, whichever is more, [shall]must be inspected. Controls for turning off circulating hot water pumps when not in use [shall]must be inspected for an automatic or manual switch.			
IB5	**HVAC and service water piping design and insulation [and sealing]**: Installed [duct and] piping insulation [shall]must 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.] Service hot water distribution systems must be inspected to verify the supply of heated water.	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; NYC Mechanical Code	[R403.3] R403.4, R403.5, R403.8, C403, C404; [MC 603.9] MC 1204
IB6	**Duct leakage testing, insulation and design**: All ductwork and air handlers must be inspected to verify that the system is entirely within conditioned space. Ducts must be verified by visual inspection for proper sizing. Ducts, air handlers, filter boxes and building cavities used as ducts must be visually inspected for proper sealing. [Where the]For alterations, where the air handler and/or some ductwork is in unconditioned space, duct-leakage testing [shall]must be performed either after rough-in or post-construction to ensure compliance with ECC R403.3.3 and R403.3.4. Not less than 20% of such ductwork [shall]must be tested.	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; ASHRAE 193; ASHRAE Manual D	[R403.3.3, R403.3.4,] R403.3, [R403.8,]C403; MC603.9
IC	**Electrical Power and Lighting Systems**			
IC1	**[Electrical energy consumption]Metering**: The presence and operation of individual meters	Prior to final electrical and	Approved construction documents	R404.2

	[shall]must be verified by visual inspection for all dwelling units.	construction inspection		
IC2	**Interior lighting power**: Lamps in permanently installed lighting fixtures [shall]must be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	R404.1
ID	**Other**			
ID1	**Maintenance information**: Maintenance manuals for equipment and systems requiring preventive maintenance [shall]must 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]must be inspected for accuracy and completeness.	Prior to sign-off or issuance of Certificate of Occupancy	Approved construction documents	R303.3
ID2	**Permanent certificate**: The installed permanent certificate [shall]must be visually inspected for location, completeness and accuracy.	Prior to final plumbing, electrical and/or construction inspection as applicable	Approved construction documents	R401.3, [RB103.8;] 1RCNY 5000-01(g)[(5)](4)
ID3	**[Solar-ready]Electric vehicle service equipment requirements**: [Solar-ready zone area]Electric vehicle outlet or conduit and electrical service reserved space must be visually inspected to verify compliance. Location [shall]must be noted on the permanent certificate.	Prior to final construction inspection	Approved construction documents	[RB103.3, RB103.7, RB103.8] R404.3

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

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

	Inspection/Test	**Periodic (minimum)**	**Reference Standard (See ECC Chapter C6) or Other Criteria**	**ECC or Other Citation**
IIA	**Envelope Inspections**			
IIA1	**Protection of exposed foundation insulation**: Insulation [shall]must be visually inspected to verify proper protection where applied to the exterior of basement or cellar walls, crawl-space	As required during foundation work and prior to backfill	Approved construction documents, ASTM C272	C303.2.1; ASHRAE 90.1 – [5.8.1.7] 5.8.1, 5.9

	walls and/or the perimeter of slab-on-grade floors.			
IIA2	**Insulation placement and R-values**: Installed insulation for each component of the conditioned space envelope and at junctions between components, including thermal bridges and heated slab insulation, [shall]must 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]also 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,] C303.2, C402.1, C402.2, [C402.5.3;] C402.6, C406; ASHRAE 90.1 –5.5, 5.6, [5.8.1]5.8, 5.9, 11 or Appendix G, Appendix I
IIA3	**Fenestration and door U-factor and product ratings**: U-factors, SHGC and VT values of installed fenestration [shall]must 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).	As required during installation	Approved construction documents; NFRC 100, NFRC 200, NFRC 300, ANSI/DASMA 105, ASTM E972	C303.1, C303.1.3, C402.1.4, C402.4, C406; ASHRAE 90.1 –5.4.2, 5.5, 5.6, 5.8.2, 5.9, 11 or Appendix G, Appendix I
IIA4	**Fenestration air leakage**: Windows and [sliding or swinging] door assemblies, except site-built windows and/or doors, [shall]must 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]must be reviewed to verify that the installed assembly complies with the standard cited in the approved plans. Weatherseals at loading docks must be visually verified.	As required during installation; prior to final construction inspection	NFRC 400, AAMA/WDMA/ CSA 101/I.S.2/A440; ASTM E283; ANSI/DASMA 105	C402.5.2, C402.5.6; ASHRAE 90.1 –5.4.3.2, 5.4.3.3, [5.8.2.2]5.8.2, 5.9
IIA5	**Fenestration areas**: Dimensions of windows, doors and skylights [shall]must be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	C402.4; ASHRAE 90.1 –5.4, [5.5.4.2,] 5.5.4, 5.6, 5.9

				11 or Appendix G
IIA6	**Air [sealing and insulation –]barrier visual inspection**: Openings and penetrations in the building envelope, including site-built fenestration and doors, [shall]must be visually inspected to verify that a continuous air barrier around the envelope forms an air-tight enclosure. The progress inspector [shall]must visually inspect to verify that materials and/or assemblies have been tested and meet the requirements of the respective standards, or must observe the testing of the building and/or assemblies and verify that the building and/or assemblies meet the requirements of the standard, in accordance with the standard(s) cited in the approved plans.	As required during construction	Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	C402.5; ASHRAE 90.1 – 5.4.3.1, 5.4.3.5, 5.9
IIA7	**Air [sealing and insulation]barrier testing**: Testing [must] must be performed in accordance with section ECC [C402.5.1.3]C402.5.1.3.1 or ASHRAE 90.1 section [5.4.3.5]5.4.3.1.3, and shall be accepted if the building [and/or its air-barrier assemblies] meets the requirements detailed in such section. Test results shall be retained in accordance with the provisions of Title 28 of the Administrative Code. Testing must be performed by a third-party independent of the contractor and acceptable to the department.	As required during construction, or prior to final construction inspection	Approved construction documents; ASTM E 779, ANSI/BOMA Z65.1, ASTM E3158, RESNET/ICC 380	C402.5, C402.5.1.3, C406; ASHRAE 90.1 – [5.4.3.5]5.4.3.1.3, 5.9, Appendix I
IIA8	**[Loading dock weatherseals**: Weatherseals at loading docks shall be visually verified.] **Air barrier continuity plan testing:** Each unique air barrier joint or seam must be tested or inspected for compliance. Documentation includes the method of test performed on each unique air barrier joint or seam and the results of the test. If an air barrier joint or seam has a deficiency, the deficiency must be noted, and retested until it complies with the testing requirements. Test results must be retained in accordance with the provisions of Title 28 of the Administrative Code.	[Prior to final construction inspection]As required during construction	Approved construction documents; ASTM E779, ASTM E1186, ASTM E2813, ASTM E3158	[C402.5.6; ASHRAE 90.1 – 5.4.3.3] C402.5.1.3; ASHRAE 90.1 – 5.4.3.1.3, 5.9

	Testing must be performed by a third-party independent of the contractor and acceptable to the department.			
IIA9	**Vestibules**: Required entrance vestibules [shall]must be visually inspected for proper operation.	Prior to final construction inspection	Approved construction documents	C402.5.7; 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]must be verified by visual inspection.	Prior to final construction inspection	Approved construction documents; [ANSI Z21.60 (see also MC 904), ANSI Z21.50]UL 127	[C402.2.7;] C402.2.8; 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]must be visually inspected to verify that such dampers, except where permitted to be gravity dampers, comply with approved construction drawings. Manufacturer's literature [shall]must be reviewed to verify that the product has been tested and found to meet the standard.	As required during installation	Approved construction documents; AMCA 500D	[C403.2.4.3;] C402.5.5, C403.7.7; ASHRAE 90.1 – 6.4.3.4
IIB3	**HVAC-R, commercial kitchen equipment, and service water heating equipment**: Equipment sizing, efficiencies, pipe sizing 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]must be verified by visual inspection and, where necessary, review of manufacturer's data. Pool heaters and covers [shall]must be verified by visual inspection.	Prior to final plumbing and construction inspection	Approved construction documents, ASHRAE 183, ASHRAE HVAC Systems and Equipment Handbook	C403.1, C403.2, C403.3, C403.7.5, C404.2, C404.5, C404.9, C405.10, [C406.2;] C406; ASHRAE 90.1 – 6.3, [6.4.1, 6.4.2, 6.4.5, 6.4.6,] 6.4, [6.5.11,

				6.8,]6.5, 6.7, 7.4, 7.5, 7.8, 10.4.6, Appendix I
IIB4	**HVAC-R and service water heating system controls**: No less than 20% of each type of required controls [shall]must be verified by visual inspection and tested for functionality and proper operation. Such controls [shall]must include, but are not limited to: • Thermostatic • Off-hour • Zones • Freeze protection/Snow- and ice-melt system • Ventilation System and Fan Controls • Energy recovery systems • Kitchen/lab exhaust systems • Fan systems serving single and multiple zones • Outdoor heating systems • HVAC control in hotel/motel guest rooms • Air/Water Economizers & controls • Hydronic systems • Heat rejection systems • Hot gas bypass limitation • Refrigeration systems • Door switches • Computer room systems • Service water heating systems • Pool heater and time switches 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	After installation and prior to final electrical and construction inspection, except that for controls with seasonally dependent functionality, such testing [shall]must 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, C403.3, C403.4, C403.5,] C403, [C404.6, C404.7, C404.9;] C404, C406; ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.6, [7.4.4, 7.4.5] 7.4, 7.5, Appendix I

	[shall]must perform a supplemental inspection where the controls are visually inspected and tested for functionality and proper operation during the next immediate season thereafter. The owner [shall]must provide full access to the progress inspector within two weeks of the progress inspector's request for such access to perform the progress inspection. For such supplemental inspections, the Department [shall]must be notified by the approved progress inspection agency of any unresolved deficiencies in the installed work within 180 days of such supplemental inspection.			
IIB5	**HVAC-R and service water piping design and insulation [and sealing]**: Installed [duct and] piping insulation [shall]must be visually inspected to verify proper insulation placement and values. Service hot water distribution systems must be inspected to verify the supply of heated water. [Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing.]	After installation and prior to closing shafts, ceilings and walls	Approved construction documents; [SMACNA Duct Construction Standards, Metal and Flexible]	[C403.2.9, C403.2.10,] C403.11, C404.4, C404.5; MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
IIB6	**Duct leakage testing, insulation and design**: For duct systems designed to operate at static pressures in excess of 3 inches w.g. (747 Pa), representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, [per ECC C403.2.9.1.3 or ASHRAE 90.1 6.4.4.2.2, shall] must be tested to verify that actual air leakage is below allowable amounts. Installed duct insulation must be visually inspected to verify proper insulation placement and values.	After installation and sealing and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual; SMACNA Duct Construction Standards, Metal and Flexible	[C403.2.9.1.3] C403.11;ASHRAE 90.1 – 6.4.4.2.2

	Joints, longitudinal and transverse seams and connections in ductwork must be visually inspected for proper sealing.			
IIC	**Electrical Power and Lighting Systems**			
IIC1	**[Electrical energy consumption]Metering**: The presence and operation of all required meters for monitoring total electrical energy usage and/or total fuel use, system energy usage, tenant energy usage, or electrical energy usage in the building, in individual dwelling units, or in tenant spaces [shall]must be verified by visual inspection.	Prior to final electrical and construction inspection	Approved construction documents	[C405.6;] C405.5, C405.11, C405.12; ASHRAE 90.1 – 8.4.3, 8.4.5, 8.4.6, 10.4.5
IIC2	**Lighting in dwelling units**: Lamps in permanently installed lighting fixtures [shall]must be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	C405.1; ASHRAE 90.1 – 9.1.1
IIC3	**Interior lighting power**: Installed lighting [shall]must be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers.	Prior to final electrical and construction inspection	Approved construction documents	[C405.4.2, C405.9.1, C406.3;] C405.3, C406; ASHRAE 90.1 –9.1, 9.2, 9.5, 9.6, 9.7; 1RCNY §101-07(c)(3)(v)(C)4, Appendix I
IIC4	**Exterior lighting power**: Installed lighting [shall]must 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;] C405.4; ASHRAE 90.1 –9.4.2; 1RCNY §101-07(c)(3)(v)(C)4
IIC5	**Lighting controls**: Each type of required lighting controls, including: • occupant sensors • manual interior lighting controls • light-reduction controls • automatic lighting shut-off • daylight zone controls • sleeping unit controls • exterior lighting controls • egress illumination controls	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	[C402.4.2.1,] C405.2, C406; ASHRAE 90.1 – 9.4.1, 9.4.3, 9.7, Appendix I

	[shall]must be verified by visual inspection and tested for functionality and proper operation.			
IIC6	**Electric motors and elevators[(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. Elevators and escalators must be inspected for compliance with regenerative drive requirements.	Prior to final electrical and construction inspection	Approved construction documents	[C403.2.12, C405.8;] C403.8, C405.6, C405.7, C405.8, C405.9; ASHRAE 90.1 – 8.4.4, 10.4, 10.8
IID	**Other**			
IID1	**Maintenance information**: Maintenance manuals for mechanical, service hot water and electrical equipment and systems requiring preventive maintenance [shall]must 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]must be inspected for accuracy and completeness.	Prior to sign-off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documentation for Building Systems	[C303.3,] C408.1.1, C408.2.5.2, C408.3.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 6.7.2.3.5.2, 8.7.2, 9.7.2.2, 9.4.3.2.2

§9. The introductory paragraph of section 5000-02 of Chapter 5000 of title 1 of the rules of the city of New York is amended to read as follows:

§ 5000-02 Amendment to ASHRAE 90.1 Relating to Lighting Controls and Modeling Requirements.

Pursuant to Section 28-103.19 of the Administrative Code of the City of New York, ASHRAE 90.1, as modified by Section ECC CA102.1 of the 2016 New York City Energy Conservation Code, [appendix CA of Section 28-1001.2.2 of such code,] is hereby amended to read as follows:

§10. Paragraphs (10) through (16) of subdivision (a) of section 101-07 of Subchapter A of Chapter 100 of title 1 of the rules of the city of New York are renumbered (11) through (17) and subdivision (a) is amended by adding a new paragraph (10) to read as follows:

(10) *Qualified commissioning agent.* An individual with at least 3 years of relevant experience.

§11. Clause (C) of subparagraph (v) of paragraph (3) of subdivision (c) of section 101-07 of Subchapter A of Chapter 100 of Title 1 of the Rules of the City of New York is amended to read as follows:

(C) *Energy code verifications.* Progress inspectors for Energy Code compliance shall perform inspections in accordance with the following:

1. *Reports.* The progress inspector is required to compile all documentation, as required in paragraph (3) of subdivision (b) of this section, into a report. The report must also include, but shall not be limited to:

i. Identification of the Energy Code Progress Inspections performed;

ii. A list of the approved construction documents referenced for each inspection performed;

iii. Identification of any inspections performed where the built conditions observed were not in compliance with the energy code as documented in the approved construction documentation;

iv. Identification of any inspections performed where non-compliant built conditions, documented in accordance with Item iii above, were corrected and made in compliance with the energy code as documented in the approved construction documentation;

v. Photographic documentation. Each report must include a dated photo sufficient to identify the building, a dated photo of the progress inspector and/or his or her employees performing physical inspections, and a dated photo for each inspection performed. All photographs must be date-stamped, clearly legible, labeled indicating the related inspection, and include enough visible evidence to support the determinations contained in the report, including but not limited to scale reference demonstrating insulation depths, insulation installer certificate.

vi. Signed and sealed by the Progress Inspection Agency with a statement of approval such as "To the best of my knowledge, belief, and professional judgement, all work performed substantially conforms to the latest relevant approved construction documents and has been performed in accordance with applicable provisions of the New York City Energy Conservation Code and other designed rules and regulations."

[1.] 2. *Sampling.* Unless noted otherwise in the Inspection/Test columns of Tables I and II of 1 RCNY §5000-01 (h), required

inspections or tests [shall]must be performed on not less than 15% of each relevant construction item in the scope of work as listed in the applicable table, and on not less than one of each type where applicable. Selection of such sample construction shall be at the sole discretion of the progress inspector. Nothing in this item shall prevent the progress inspector from determining that, in his or her professional judgment, more than 15% of a given type of construction item [shall]must be inspected.

[2.] 3. *Phased inspection for temporary certificates of occupancy*. Prior to issuance of a temporary certificate of occupancy for less than the total scope of work, [inspection shall be required for]all work serving the portion of the building for which the temporary certificate of occupancy is to be issued must be inspected. Where a practical difficulty for some inspections is demonstrated to the commissioner, the commissioner may grant a waiver of those inspections for a specified time or until final inspection for the final certificate of occupancy.

[3.] 4. *Phased inspection of controls*. Notwithstanding item [2] 3 of this clause, where inspection of the HVAC and lighting controls for central head-end systems and communication networks depends upon completion of installation of all related end devices and components located in the building, such inspection of such controls for head-end systems and communication networks [shall]must be completed prior to issuance of a final certificate of occupancy.

[4.] 5. [*Lighting*] *Installed value more efficient than approved energy analysis.* Where the progress inspector verifies that, for any given space or system, the [lighting power density is less] installed performance value is more efficient than the [lighting power density for such space] performance value on the approved construction documents, the progress inspector may approve such space without the need for revised construction documents to be submitted to and approved by the Department. [For the purposes of this item, a space shall mean an area within the building separated by floor-to-ceiling partitions from all other spaces within the building.]

§12. Subdivision (c) of section 101-07 of Subchapter A of Chapter 100 of Title 1 of the Rules of the City of New York is amended by adding a new paragraph (9) to read as follows:

(9) Commissioning approved agencies. An agency shall be deemed an approved agency for performing commissioning in accordance with the Energy Conservation Code, where such agency complies with the following:

(i) Responsibility of owner. It shall be the responsibility of the owner to retain an approved agency to perform commissioning for a new building or alteration.

(ii) Obligation to avoid conflict of interest. A commissioning approved agency must not engage in any activities that may conflict with their objection judgment and integrity, including, but not limited to, having a financial and/or other interest in the construction, installation, manufacture or maintenance of structures or components that they inspect.

(iii) Agency qualifications. Commissioning and related testing pursuant to section C408 of the Energy Conservation Code shall be performed by or under the direct supervision of a qualified commissioning agent.

(iv) A qualified commissioning agency must maintain records of inspections and tests for at least 6 years and must make such records available to the department upon request.

(v) A qualified commissioning agency must maintain insurance coverage as set forth in paragraph (7) of subdivision (b) above.

(vi) All commissioning and test reports must be presented in a form acceptable to the department and must bear the name of the commissioning agency and the name of the qualified commissioning agent who supervised each inspection or test.

This rule is effective 10-20-17

NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of the Department of Buildings by Section 643 of the New York City Charter and in accordance with Section 1043 of the Charter, that the Department of Buildings hereby adopts the amendments to Section 5000-01 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding the implementation of the New York City Energy Conservation Code to conform to changes in the New York City Energy Conservation Code that were necessitated by updates to the New York State Energy Code.

This rule was first published on June 15, 2017 and a public hearing thereon was held on July 20, 2017.

Dated: 9.13.17
New York, New York

Rick D. Chandler, P.E.
Commissioner

Statement of Basis and Purpose of Rule

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 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 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 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 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.

<u>New material is underlined.</u>
[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.

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/ft^2. 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	R303.2.1
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	R303.1, R303.1.1, R303.1.2, R402.1, R402.2, [402.4.2.2,] Table [402.4.2] R402.4.1.1, R402.4.4, R402.6
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 R303.1.3(1) and (2).	As required during installation	Approved construction drawings; NFRC 100	R303.1, R303.1.3, R402.1, R402.3, [402.6]R402.5
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/A440	[402.4.4] R402.4.3
IA5	**Fenestration areas**: Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	R402.3
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 sealed, in accordance with Table [402.4.2]R402.4.1.1.	As required during envelope construction	Approved construction documents; ASTM E283; [ASTM E84; RCNYS]	R402.4.1, [402.4.2.2, 402.4.3] R402.4.4, R402.4.5, R402.4.6
IA7	**Air sealing and insulation – testing**: Testing shall be performed in accordance with section ECC [402.4.2.1]R402.4.1.2 and shall be accepted if the building meets the requirements detailed in such section. Test results shall be retained in accordance with	Prior to final construction inspection	[ASHRAE/]ASTM E779; ASTM 1827; ANSI Z65; Approved construction documents	[402.4.2.1] R402.4.1.2

	the provisions of Title 28. Testing must be performed by a third-party independent of the contractor and acceptable to the department.			
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; UL 127, UL 907, ANSI Z21.60 (see also MC 904), ANSI Z21.50	[303.1.5] R402.4.2; 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]R403.6, [403.7]R403.8, C403, C404
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 J and S; Approved construction documents, including energy analysis	[403.6, 403.7, 403.9]R403, C403, C404
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 R403.1.1, and that such controls are set and operate as specified in ECC R403.1.1. 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. 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. Controls for turning off circulating hot water pumps when not in use shall be inspected for an automatic or manual switch.	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	[403.1,403.4, 403.7, 404.8, 403.9] R403, C403, C404
IB5	**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.	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,]R403.3 R403.4, [403.7]R403.5, R403.8, C403, C404; MC 603.9

IB6	**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] R403.3.3 and R403.3.4. Not less than 20% of such ductwork shall be tested.	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents[; ANSI/ASHRAE 152, ASTM E1554 Test Method A]	[403.2.2, 403.7]R403.3.3,R403.3.4, R403.8, C403
IC	**Electrical Power and Lighting Systems**			
IC1	**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.	Prior to final electrical and construction inspection	Approved construction documents	R404.2
IC2	**Interior lighting power**: Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	R404.1
ID	**Other**			
ID1	**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.	Prior to sign-off or issuance of Certificate of Occupancy	Approved construction documents	R303.3
ID2	**Permanent certificate**: The installed permanent certificate shall be visually inspected for location, completeness and accuracy.	Prior to final plumbing, electrical and/or construction inspection as applicable	Approved construction documents	R401.3, RB103.8; 1RCNY 5000-01(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.	Prior to final construction inspection	Approved construction documents	RB103.3, RB103.7, RB103.8

§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, 11 or Appendix G
IIA3	**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).	As required during installation	Approved construction documents; NFRC 100, NFRC 200	C303.1, C303.1.3, [C402.3] C402.4; ASHRAE 90.1 –5.5, 5.6, [or 11;] 5.8.2, 11 or Appendix G
IIA4	**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.	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] C402.5.2; ASHRAE 90.1 –5.4.3.2, 5.8.2.2
IIA5	**Fenestration areas**: Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	[C402.3] C402.4; ASHRAE 90.1 –5.5.4.2, 5.6 [or], 11 or Appendix G
IIA6	**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	As required during construction	Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	[C402.4] C402.5; ASHRAE 90.1 – 5.4.3.1, 5.4.3.5

	of the respective standards, or [that the building is tested and meets] must observe the testing of the building and/or assemblies and verify that the building and/or assemblies meet the requirements of the standard, in accordance with the standard(s) cited in the approved plans.			
[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	**Air sealing and insulation testing**: 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.	As required during construction, or prior to final construction inspection	Approved construction documents; ASTM E 779	C402.5.1.3; ASHRAE 90.1 – 5.4.3.5
IIA8	**Loading dock weatherseals**: Weatherseals at loading docks shall be visually verified.	Prior to final construction inspection	Approved construction documents	[C402.4.6] C402.5.6; 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] C402.5.7; 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] C402.2.7; 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 been tested and found to meet the standard.	As required during installation	Approved construction documents; AMCA 500D	[C403.2.4.4] C403.2.4.3; ASHRAE 90.1 – 6.4.3.4
IIB3	**HVAC-R and service water heating equipment**: Equipment sizing, efficiencies, pipe sizing 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. Pool heaters and covers shall be verified by visual inspection.	Prior to final plumbing and construction inspection	Approved construction documents, ASHRAE 183, ASHRAE HVAC Systems and Equipment Handbook	C403.2, C404.2, [C404.7] C404.5, C404.9, C406.2; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, 6.4.5, 6.4.6, 6.5.11, 6.8,[;] 7.4, 7.8
IIB4	**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: • Thermostatic • [Set point overlap restriction] • Off-hour • [Shutoff damper] • Zones • [Snow-melt system] • Freeze protection/Snow- and ice-melt system • Ventilation System and Fan Controls • [Demand control systems • Outdoor heating systems • Zones • Economizers • Air systems • Variable air volume fan • Single Zone Cooling Systems] • Energy recovery systems • Kitchen/lab exhaust systems • Fan systems serving single and multiple zones • Outdoor heating systems • HVAC control in hotel/motel guest rooms	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, C403.5, [C404.3] C404.6, C404.7, C404.9; ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.6 7.4.4, 7.4.5

	• Air/Water Economizers & controls • Hydronic systems • Heat rejection [equipment fan speed] systems • [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] • Refrigeration systems • Door switches • Computer room systems • Service water heating systems • Pool heater and time switches 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. 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. For such supplemental inspections, the Department shall be notified by the approved progress inspection agency of any unresolved deficiencies in the installed work within 180 days of such supplemental inspection.			

IIB5	**HVAC-R insulation and sealing**: Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing.	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] C403.2.9, C403.2.10, C404.4; MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
IIB6	**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]C403.2.9.1.3 or ASHRAE 90.1 6.4.4.2.2, shall be tested to verify that actual air leakage is below allowable amounts.	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	**Electrical energy consumption**: The presence and operation of [individual] 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 shall be verified by visual inspection [for all apartments and where required in a covered tenant space].	Prior to final electrical and construction inspection	Approved construction documents	[C405.7] C405.6; ASHRAE 90.1 – 8.4.3, 8.4.5, 10.4.5
IIC2	**Lighting in dwelling units**: Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	C405.1; ASHRAE 90.1 – 9.1.1
IIC3	**Interior lighting power**: Installed lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers.	Prior to final electrical and construction inspection	Approved construction documents	[C405.5] C405.4.2, C405.9.1, 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	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)

	transformers.			4
IIC5	**Lighting controls**: Each type of required lighting controls, including: • 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	C402.4.2.1, C405.2; ASHRAE 90.1 – 9.4.1, 9.4.3 [(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]
IIC6 [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] C403.2.12, C405.8; 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 completeness.	Prior to sign-off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documentation for Building Systems	C303.3, C408.2.5.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2

This amendment has an effective date of 01-30-15.

Statement of Substantial Need for Earlier Implementation

I hereby find, pursuant to §1043(f)(1)(c) of the New York City Charter, and hereby represent to the Mayor, that there is substantial need for the implementation of the amendments to Section 5000-01 of Title 1 of the Rules of the City of New York, regarding construction document compliance with the 2014 New York City Energy Conservation Code ("NYCECC"), upon the publication in the City Record of its Notice of Adoption.

The 2014 NYCECC was enacted by Local Law 4 for the year 2015, effective January 1, 2015. Requirements for new code provisions of commercial buildings and progress inspections in the current 1 RCNY §5000-01 cite an earlier version of the NYCECC, making the citations from the rule incorrect for the 2014 NYCECC and associated inspection forms. Adoption of this proposed amendment to the current rule will correct the misalignment between the code and the rule, and resolve the considerable confusion resulting in the industry.

Rick D. Chandler, P.E.
Commissioner
Department of Buildings

APPROVED: _____
Bill de Blasio
Mayor

DATE: 1.26.15

NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of the Department of Buildings by Section 643 of the New York City Charter and in accordance with Section 1043 of the Charter, that the Department of Buildings hereby adopts the amendments to Section 5000-01 of Chapter 5000 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding energy code.

This rule was first published on December 16, 2014 and a public hearing thereon was held on January 16, 2015

Dated: 1.26.15

New York, New York

Rick D. Chandler, P.E.

Commissioner

Statement of Basis and Purpose

Local Law 4 for the year 2015 was effective as of January 1, 2015. It updates the New York City Energy Conservation Code ("City Energy Code") to comply with the requirements of the State Energy Law and the 2014 updates to the New York State Energy Code ("State Energy Code"). This rule amends 1 RCNY Section 5000-01, which implements the City Energy Code, to conform to the changes to the City Energy Code in Local Law 4. The rule also reflects changes in the State Energy Code regarding specific tests, inspections and code references.

Specifically, this amendment to Section 5000-01:

- Removes definitions listed in the rule that will be defined in the City Energy Code, if Intro. 550 is enacted;
- Adds and removes progress inspections to correspond to City Energy Code requirements that come into effect if Intro. 550 is enacted;
- Clarifies the existing supporting documentation submission requirements by requiring a supporting documentation index; and
- Clarifies commissioning requirements.

References in this rule to the Administrative Code or the New York City Energy Conservation Code mean the Administrative Code or the New York City Energy Conservation Code, respectively, as amended by Local Law 4 of 2015.

The Department of Buildings' authority for these rules is found in sections 643 and 1043 of the New York City Charter. Section 5 of Local Law 4 authorizes the Department to promulgate rules implementing the changes to the City Energy Code. Section 4 of Local Law 4 repeals and replaces section 28-1001.2 of the Administrative Code of the City of New York, and includes authority for the Department to issue this rule.

<u>New material is underlined.</u>
[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.

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

(b) References: See New York City Energy Conservation Code (Administrative Code Sections 28-1001.1 et seq.); New York State Energy Conservation Construction Code (19 NYCRR part 1240); Administrative Code Section 28-104.7.9, Sections [BC106.13] <u>BC107.13</u> and [BC109.3.5] <u>BC110.3.5</u>; 1 RCNY §101-07 ("[Inspections and] Approved Agencies").

§2. 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:

[(1)] ADDITION. An addition as defined in the Energy Code.

[(2)] 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 as defined in the New York State Energy Conservation Construction Code and amended by Appendix A of the Energy Code.

[(3)] COMMERCIAL BUILDING. A commercial building as defined in the Energy Code.

[(4)] 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.

[(5)] ENERGY CODE. The New York City Energy Conservation Code ("ECC"), [including American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., Standard 90.1, "Energy Standard for Buildings Except Low-Rise Residential Buildings," ("ASHRAE 90.1") where applicable] as defined in Chapter 10 of Title 28 of the Administrative Code.

HISTORIC BUILDING. A historic building as described in the ECC.

[(6)] PROJECT. A [design and construction undertaking comprised of work related to one or more buildings and the site improvements. A project is represented by one or more plan/work applications, including construction documents compiled in accordance with Section BC 106 of the New York City Building Code, that relate either to the construction of a new building or buildings or to the demolition or alteration of an existing building or buildings. Applications for a project may have different registered design professionals and different job numbers, and may result in the issuance of one or more permits.]project as defined in the Energy Code.

[(7)] RESIDENTIAL BUILDING. A residential building as defined in the Energy Code.

§3. 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 [use] follow either ECC [Chapter 5] Chapters C2 through C5 or ASHRAE 90.1 [(as required by section ECC 501)] in its entirety and as modified by ECC Appendix A.

[(3) Commercial buildings with vertical fenestration exceeding 40% of the above-grade wall.]

(i) ECC Compliance Path. Vertical fenestration is allowed up to 30% of the gross wall area, prescriptively. Commercial buildings with vertical fenestration exceeding [40%] 30% of the above-grade wall must [be designed in accordance with either section ECC 506 or ASHRAE 90.1, and] 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 [to comply with the Energy Code,] 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").

[(4)] (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.

§4. Subparagraphs (i) and (ii) of paragraph 2 of subdivision (e) of section 5000-01 of title 1 of the rules of the city of New York are amended to read as follows:

(i) Historic building. [All the proposed work is in or on the premises of
(A) a National- or State-designated historic building
(B) a building certified as a contributing building within a National or State historic district
(C) or, a building certified as eligible for such designation, as provided in section ECC 101.4.2.]

(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 [section ECC 101.5.2] ECC Chapter 1.

§5. The undesignated introductory paragraph, subparagraph (i), clause (D) of subparagraph (ii), clause (D) of subparagraph (iii), and the first undesignated clause of subparagraph (iv) 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 [Chapter 5] Chapters C2 through C5 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, ECC [Chapter 5] Chapters C2 through C5 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, 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] (iii) of this paragraph and Figure 2 in subdivision (g) of this section.

* * *

(ii) REScheck Software Program. The REScheck software program available from the United States Department of Energy website may be used for residential buildings as follows:

(D) [New York State form] REScheck version.

* * *

(iii) COMcheck. The COMcheck software program available from the United States Department of Energy website may be used for commercial buildings as follows:

(D) COMcheck versions. [Applicants must use only the New York State COMcheck form or the ASHRAE 90.1 COMcheck form, whichever reflects the standard used for project design.

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.

Where ECC Chapter 5 has been used for design, the report must specify the 2010 Energy Conservation Construction Code of New York State version of COMcheck unless a stand-alone New York State-specific

version of the software is no longer supported. In the event that a New York State-specific version is no longer supported, the report must specify the 2007 ASHRAE 90.1 version of the software.

Where ASHRAE 90.1 has been used for design, the report must specify the 2007 ASHRAE 90.1 version of the software.]

1. Only the New York State versions of the COMcheck forms are permitted.

2. For applications filed on or after January 1, 2015, the report must specify the New York State Energy Code or New York State amended ASHRAE 90.1. In the event that a New York State-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.

(iv) Energy modeling based on DOE2. For new commercial buildings and additions or alterations to commercial buildings, where trade-offs among disciplines and/or the performance path are used in accordance with [section ECC 506 or] ASHRAE 90.1 section 11 or Appendix G, an energy modeling program developed by the United States Department of Energy, including DOE2 or updates of DOE2, shall be used; such updates include DOE2.1E, VisualDOE, EnergyPlus and eQuest.

(2) Mixed-occupancy buildings three stories or fewer. In accordance with section ECC 101.4.6, 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 and [5] Chapters C2 through C5, and must have separate energy analyses, except that a tabular analysis format may be used to show both the residential and non-residential requirements.

§6. Subdivision (g) of section 5000-01 of title 1 of the rules of the city of New York is amended by amending the first undesignated paragraph, and adding a new Figure 2 following such first undesignated paragraph, 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.

Figure 2: Sample Supporting Documentation Index:

SUPPORTING DOCUMENTATION INDEX Code chapter and/or standard used for design Climate Zone 4A		
Code Section	**Item Description**	**Supporting Documentation Location**
(List specific code section)	(List all elements of the scope of work in the detail that they are addressed by the energy code.)	(List the drawing page number and/or section title.)

§7. Paragraph 1 of subdivision (g) of section 5000-01 of title 1 of the rules of the city of New York is amended to read as follows:

(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 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.

§8. Paragraph 3 of subdivision (g) of section 5000-01 of title 1 of the rules of the city of New York is amended by amending subparagraphs (ii) and (iv), and adding a new subparagraph (v), to read as follows:

(ii) Exterior lighting zones. Exterior lighting zones as set forth in ECC Table [505.6.2(1)]C405.6.2(1) correspond with the following zoning districts in the New York City Zoning Resolution:

* * *

(iv) Feeders. For applications using ASHRAE 90.1 for prescriptive compliance, calculated feeder voltage drops must be provided in accordance with ASHRAE 90.1 [section 8.4].

(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.

§9. Paragraphs 4 and 7 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:

(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.

(ii) For commercial buildings complying with the provisions of ECC [Chapter 5 provisions] Chapters C2 through C5, references for such requirements are listed throughout [Chapter 5 or, if Section 506 is used, in Section ECC 506.2] Chapters C2 through C5; for commercial buildings complying with ASHRAE 90.1, such requirements are set forth [in Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4] throughout the referenced standard.

[Exception: Sections ECC 402.5 and 502.5 shall not be mandatory as vapor barriers are not required in Zone 4A.]

(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.

(7) Required progress inspections. Supporting documentation shall also set forth all applicable required progress inspections in accordance with the Energy Code, 1 RCNY §101-07 and this section.

(i) Applicant's instructions regarding required progress inspections. Progress inspections required to be performed during construction for any new building, addition or alteration project shall be identified by the design applicant according to the scope of work and listed and described in the approved construction drawings as required progress inspections.

The description shall set forth the standard of construction and the inspection criteria as appropriate for the scope of work in accordance with Table I or Table II of subdivision (h) of this section, as applicable; simple reference to the citations provided, without such description, is not sufficient.

The applicant shall include the instruction that, in accordance with Section BC [109.9] 110.9 and ECC 104.2.3, where an inspection or test fails, the construction shall be corrected and must be made available for reinspection and/or retesting by the progress inspector until it complies.

For additions and alterations, the applicant must clearly indicate what portions of the altered systems should be inspected and/or tested, and what inspection and/or testing may be outside the scope of the work.

(ii) Construction scheduling instructions. The drawings shall state that, in accordance with Article 116 of Title 28 and Section BC [109] 110, construction shall be scheduled to allow required progress inspections to take place, and that roofs, ceilings, exterior walls, interior walls, floors, foundations, basements and

any other construction shall not be covered or enclosed until required progress inspections are completed or the progress inspector indicates that such covering or enclosure may proceed, at each stage of construction, as applicable.

(iii) Commercial building reference standards and citations. Progress inspection reference standards and citations shall conform to the respective requirements of ECC [Chapter 5] Chapters C2 through C5 or ASHRAE 90.1 as used for design, in accordance with the following:

(A) When ECC [Chapter 5 has] Chapters C2 through C5 have been used for the project design, as reflected in the energy analysis, the applicant shall list on the drawings the respective references and citations for ECC for the progress inspection.

(B) When ASHRAE 90.1 has been used for the project design, as reflected in the energy analysis, the applicant shall list on the drawings the respective references and citations for ASHRAE 90.1 for the progress inspection.

§10. The undesignated opening paragraph 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.

* * *

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

Inspection/Test		Frequency (minimum)	Reference Standard (See ECC Chapter 6) 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	303.2.1
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	303.1, 303.1.1, 303.1.2, 402.1, 402.2, 402.4.2.2, Table 402.4.2
IA3	**Fenestration [thermal values] U-factor and product ratings:** U-factors of installed fenestration shall be verified by visual inspection for conformance with the U-factors identified in the construction drawings, either by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables 303.1.3(1) and (2).	As required during installation	Approved construction drawings; NFRC 100	303.1, 303.1.3, 402.1, 402.3, 402.6
IA4	**Fenestration [product ratings for] 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/A440	402.4.4
IA5	**Fenestration areas:** Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	402.3[, 402.6]
IA6	**Air sealing and insulation – visual inspection [option]:** Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that	As required during envelope construction	Approved construction documents; ASTM E283; ASTM E84;	402.4.1, 402.4.2.2, 402.4.3

	they are properly sealed, in accordance with Table 402.4.2.		RCNYS	
IA7	**Air sealing and insulation – testing [option]:** Testing shall be performed in accordance with section ECC 402.4.2.1 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.	Prior to final construction inspection	ASHRAE/ASTM E779; ANSI Z65; Approved construction documents	402.4.2.1
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; ANSI Z21.60 (see also MC 904), ANSI Z21.50	303.1.5; BC 2111; MC Chapters 7, 8, 9; FGC Chapter 6
IB2	**[Outdoor air intake and exhaust dampers] 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, 403.7, [503] C403
IB3	**[Equipment] 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 Manual J; Approved construction documents, including energy analysis	403.6, 403.7, 403.9, [503] C403
IB4	**[Controls] 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 403.1.1, and that such controls are set and operate as specified in ECC 403.1.1. 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. Controls for snow- and ice-melting systems and pools shall be inspected for proper operation. Not less than 20% or	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	403.1, 403.4, 403.7, 403.8, 403.9[, 503, 504]

	one of each control type, whichever is more, shall be inspected. Controls for turning off circulating hot water pumps when not in use shall be inspected for an automatic or manual switch.			
IB5	**[Duct and piping] HVAC insulation and [duct] 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.	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; RCNYS M1601.3.1	403.2.1, 403.2.2, 403.3, 403.4, 403.7[, 503, 504]; MC [Section 603; 1RCNY §5000-01] 603.9
IB6	**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. Not less than 20% of such ductwork shall be tested.	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; ANSI/ASHRAE 152, ASTM E1554 Test Method A	403.2.2, 403.7[, 503]
IC	**Electrical Power and Lighting Systems**			
IC1	**Electrical [metering] 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.	Prior to final electrical and construction inspection	Approved construction documents	404.2
IC2	**[Lighting in dwelling units] Interior lighting power:** Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	404.1
ID	**Other**			
ID1	**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.	Prior to sign-off or issuance of Certificate of Occupancy	Approved construction documents	303.3
ID2	**Permanent certificate**: The installed permanent certificate shall be visually inspected for location, completeness and accuracy.	Prior to final plumbing, electrical and/or construction inspection as	Approved construction documents	401.3; 1RCNY 5000-01(g)(5)

		applicable		

§11. 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 [Chapter 5] Chapters C2 through C5 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 [6] C5) 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, [502.1, 502.2] C402.1, C402.2; ASHRAE 90.1 – 5.5, 5.6 or 11; 5.8.1
IIA3	**Fenestration [thermal values]U-factor and product ratings:** U-factors, [and] SHGC and VT values of installed fenestration shall be visually inspected for conformance with the U-factors, [and] 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).	As required during installation	Approved construction documents; NFRC 100, NFRC 200	C303.1, C303.1.3[;], [502.3] C402.3; ASHRAE 90.1 – 5.5; 5.6 or 11; 5.8.2

	[Where ASHRAE 90.1 is used, visible light transmittance values shall also be verified.]			
IIA4	**Fenestration [and door assembly product ratings for] 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.	As required during installation; prior to final construction inspection	NFRC 400, AAMA/WDMA/CSA 101/I.S.2/A440 ASTM E283; ANSI/DASMA 105	[502.4] C402.4.3; ASHRAE 90.1 – 5.4.3.2
IIA5	**Fenestration areas:** Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	[502.3] C402.3; ASHRAE 90.1 – [5.5.4]5.5.4.2, 5.6 or 11
IIA6	**[Sealing] 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 the requirements of the standard, in accordance with the standard(s) cited in the approved plans.	As required during construction	Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	[502.4.3, 502.4.7] C402.4; ASHRAE 90.1 – 5.4.3.1
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	[502.3] C402.3; ASHRAE 90.1 – 5.5.4, 5.6 or 11

IIA8	**Loading dock weatherseals:** Weatherseals at loading docks shall be visually verified.	Prior to final construction inspection	Approved construction documents	[502.4.5] C402.4.6; ASHRAE 90.1 – 5.4.3.3
IIA9	**[Building entrance vestibules] Vestibules:** Required entrance vestibules shall be visually inspected for proper operation.	Prior to final construction inspection	Approved construction documents	[502.4.6] C402.4.7; 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	[303.1.5] C402.2.9; BC 2111; MC Chapters 7, 8, 9; FGC Chapter 6
IIB2	**[Outdoor air intakes and exhaust openings] 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 been tested and found to meet the standard.	As required during installation	Approved construction documents; AMCA 500D	[502.4.4] C403.2.4.4; ASHRAE 90.1 – 6.4.3.4
IIB3	**HVAC[,] and service water heating [and pool] equipment [sizing and performance]:** Equipment sizing, efficiencies 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. Pool heaters and covers shall be verified by visual inspection.	Prior to final plumbing and construction inspection	Approved construction documents	[503.2, 504.2, 504.7] C403.2, C404.2, C404.7, C406.2; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8
IIB4	**HVAC [system controls and economizers] and service [hot] water**	After installation and prior to final	Approved construction	[503.2.4, 503.2.5.1,

	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: • Thermostatic • Set point overlap restriction • Off-hour • Shutoff damper • Snow-melt system • Demand control systems • Outdoor heating systems • Zones • Economizers • Air systems • Variable air volume fan • Single Zone Cooling Systems • Hydronic systems • Heat rejection equipment fan speed • 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 hoods • Radiant heating systems • HVAC Control in Group R-1 Sleeping Rooms. **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	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	documents, including control system narratives; ASHRAE Guideline 1: The HVAC Commissioning Process where applicable	503.2.11, 503.3, 503.4, 504.3, 504.6, 504.7] C403.2.4, C403.2.5.1, C403.2.11, C403.3, C403.4, C404.3, C404.6, C404.7; ASHRAE 90.1 – 6.3, 6.4, 6.5, [6.7.2.4,] 7.4.4, 7.4.5

	functionality and proper operation during the next immediate season thereafter. 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. For such supplemental inspections, the Department shall be notified by the approved progress inspection agency of any unresolved deficiencies in the installed work within 180 days of such supplemental inspection.			
IIB5	**[Duct, plenum and piping] HVAC insulation and sealing:** Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing.	After installation and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA Duct Construction Standards, Metal and Flexible	[503.2.7, 503.2.8, 504.5] C403.2.7, C403.2.8, C404.5; MC 603.9; ASHRAE 90.1 – 6.3, [6.4.4.2] 6.4.4, 6.8.2, 6.8.3; 7.4.3
IIB6	**[Air leakage testing for high-pressure duct systems] Duct leakage testing:** For duct systems designed to operate at static pressures in excess of 3 inches w.g. (746 Pa), representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, per ECC [503.2.7.1.3]C403.2.7.1.3, shall be tested to verify that actual air leakage is below allowable amounts.	After installation and sealing and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual	[503.2.7.1.3] C403.2.7.1.3; ASHRAE 90.1 – 6.4.4.2.2
IIC	**Electrical Power and Lighting Systems**			
IIC1	**Electrical [metering] energy consumption:** The presence and operation of individual meters or other means of monitoring individual apartments shall be verified by visual inspection for all apartments and where required in a covered tenant space.	Prior to final electrical and construction inspection	Approved construction documents	[505.7] C405.7
IIC2	**Lighting in dwelling units:** Lamps in permanently installed lighting fixtures	Prior to final electrical and	Approved construction	[505.5.3] C405.1;

	shall be visually inspected to verify compliance with high-efficacy requirements.	construction inspection	documents	ASHRAE 90.1 – 9.1.1
IIC3	**Interior lighting power:** Installed lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers.	Prior to final electrical and construction inspection	Approved construction documents	[505.5] C405.5, 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	[505.6] C405.6; ASHRAE 90.1 – [9.4.4, 9.4.5]9.4.3; 1RCNY §101-07(c)(3)(v)(C)4
IIC5	**Lighting controls**: Each type of required lighting controls, including: 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	[505.2, 505.2.2.2] C405.2; ASHRAE 90.1 – 9.4.1[, 9.4.1.2] (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	[505.4] C405.4; ASHRAE 90.1 – [9.4.3]9.4.2
[IIC7	**Tandem wiring:** Tandem wiring shall be tested for functionality.	Prior to final electrical and construction inspection	Approved construction documents	505.3; ASHRAE 90.1 – 9.4.2]
[IIC8] 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	[503.2.10] C403.2.10; 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 completeness.	Prior to sign-off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documentation for Building Systems	C303.3, [503.2.9.3] C408.2.5.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2

This amendment has an effective date of 04-15-11.

Statement of Substantial Need for Earlier Implementation

I hereby find, pursuant to §1043, subdivision f, paragraph 1(c) of the New York City Charter, and hereby represent to the Mayor, that there is substantial need for the implementation of Section 5000-01 of Title 1 of the Rules of the City of New York, regarding construction document compliance with the 2011 New York City Energy Conservation Code ("NYCECC"), upon the publication in the City Record of its Notice of Adoption.

Local Law 1 for the year 2011, which enacted the 2011 NYCECC, became effective on December 28, 2010, along with the 2010 Energy Conservation Construction Code of New York State, which Local Law 1/11 amends. Requirements for progress inspections in the original 1 RCNY §5000-01 cite an earlier version of the NYCECC, making the citations from the rule incorrect for the new code and associated inspection forms. Adoption of this proposed amendment to the original rule will correct the misalignment between the code and the rule, and resolve the considerable confusion resulting in the industry.

Robert D. LiMandri
Commissioner
Department of Buildings

APPROVED: _____
Michael R. Bloomberg
Mayor

DATE: April 7, 2011

NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of the Department of Buildings by Section 643 of the New York City Charter and in accordance with Section 1043 of the Charter, that the Department of Buildings hereby adopts the amendments to section 5000-01 of Chapter 5000 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding compliance with the energy code.

This rule was first published on February 25, 2011 and a public hearing thereon was held on March 28, 2011.

Dated: 3/31/11
New York, New York

Robert D. LiMandri
Commissioner

Statement of Basis and Purpose

This rule amendment is promulgated pursuant to the authority of the Commissioner of Buildings under Sections 643 and 1043 of the New York City Charter.

On December 28, 2010, Local Law 1 of 2011 became effective. Local Law 1 updates the New York City Energy Conservation Code ("City Energy Code") to comply with the requirements of the State Energy Law and the 2010 update to the Energy Conservation Construction Code of New York State ("State Energy Code"). This rule amends the implementing rule for the City Energy Code, 1 RCNY §5000-01, to conform to changes in the 2011 City Energy Code.

For the purposes of this rule amendment, the terms "shall" and "must" have the same meaning.

The rule details filing requirements outlined in the City Energy Code and reflects changes in the State Energy Code regarding specific tests, inspections and code references.

Specifically, this amendment to section 5000-01:

- Updates submission requirements for compliance with the updated City Energy Code.
- Clarifies how to apply new exterior lighting zones in the City Energy Code by correlating them with zoning districts in the Zoning Resolution.
- Clarifies how a professional who is not a design applicant of record but prepares an energy analysis and/or electrical drawings may file such professional's business and licensing information with the Department.
- Clarifies the role of lead professional in the filing of an energy analysis.

Section 1. Subdivision c of section 5000-01 of Chapter 5000 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:

(1) ADDITION. An addition as defined in the Energy Code.

(2) 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.

([2]3) COMMERCIAL BUILDING. A commercial building as defined in the Energy Code.

(4) 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.

([3]5) ENERGY CODE. The New York City Energy Conservation Code ("ECC"), including American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., Standard 90.1, "Energy Standard for Buildings Except Low-Rise Residential Buildings," ("ASHRAE 90.1") where applicable.

([4]6) PROJECT. A [design and construction undertaking comprised of work related to one or more buildings and the site improvements. A project is represented by one or more plan/work applications, including construction documents compiled in accordance with Section BC 106 of the New York City Building Code, that relate either to the construction of a new building or buildings or to the demolition or alteration of an existing building or buildings. Applications for a project may have different registered design professionals and different job numbers, and may result in the issuance of one or more permits.]project as defined in the Energy Code.

([5]7) RESIDENTIAL BUILDING. A residential building as defined in the Energy Code.

§2. Section 5000-01 of Chapter 5000 of Title 1 of the Rules of the City of New York is amended by adding a new subdivision d 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 use either ECC Chapter 5 or ASHRAE 90.1 (as required by section ECC 501).

(3) Commercial buildings with vertical fenestration exceeding 40% of the above-grade wall. Commercial buildings with vertical fenestration exceeding 40% of the above-grade wall must be designed in accordance with either section ECC 506 or ASHRAE 90.1, and the design team must use energy modeling to comply with the Energy Code, as provided in subparagraph (iv) of paragraph (1) of subdivision (f) of this section.

(4) 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. Subdivision d of section 5000-01 of Chapter 5000 of Title 1 of the Rules of the City of New York is re-lettered e and amended to read as follows:

[(d)](e) Professional statement. Every application filed by a registered design professional for approval of construction documents[,] for a new building or alteration shall include a professional statement of either compliance with or exemption from the Energy Code [as set forth in Section BC 106.13; however, if the project is exempt from the requirements of the Energy Code in accordance with Section ECC 101, the professional shall include a statement of exemption instead and provide the citation to the provision that allows the exemption].

(1) Compliance. All new building and alteration applications must indicate compliance on the application form, except as specifically excluded in paragraph (2) of this subdivision.

(2) Exemption. Only applications that consist entirely of work exempt from the Energy Code may indicate exemption in the professional statement. The application must state one of the following bases for exemption:

(i) Historic building. All the proposed work is in or on the premises of

(A) a National- or State-designated historic building

(B) a building certified as a contributing building within a National or State historic district

(C) or, a building certified as eligible for such designation, as provided in section ECC 101.4.2.

(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 section ECC 101.5.2.

(iii) Categories of work not affecting energy use. Temporary structures (as described in sections 28-111 and BC 3103) are exempt from compliance with the Energy Code. In addition, the following work types are exempt:

(A) FA (fire alarm)
(B) FP (fire suppression in a range hood)
(C) SD (standpipe)
(D) SP (sprinklers)
(E) FS (fuel storage)
(F) EQ (construction equipment)
(G) CC (curb cut)
(H) OT/BPP (builder's pavement plan)
(I) OT/FPP (fire protection plan).

§4. Subdivision e of section 5000-01 of Chapter 5000 of Title 1 of the Rules of the City of New York is deleted.

[(e) Owner statement. The owner of the property for which an application for construction document approval is being filed shall attest on the application form that he or she shall not knowingly authorize construction documents or construction work that fail to comply with the Energy Code.]

§5. Subdivision f of section 5000-01 of Chapter 5000 of Title 1 of the Rules of the City of New York is amended to read as follows:

(f) Energy analysis. [The applicant shall include an energy analysis on a sheet in the construction drawing set in the initial application filing.] 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 [applicant intends to comply with the Energy Code] project design complies with the Energy Code and, for commercial projects, indicate whether the project is designed in accordance with ECC Chapter 5 or with ASHRAE 90.1.

[Exception: An energy analysis is not required for a project that is exempt from the Energy Code.]

(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 [or 8], ECC Chapter 5 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 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, as applicable.

[Commercial]For commercial building [alterations and] additions and/or alterations involving lighting, the applicant may choose to utilize the Lighting Application Worksheet from COMcheck [and the tenant-area or portion-of-building method] for the lighting part of the analysis in lieu of including [it]lighting in the tabular analysis. See subparagraph iii of this paragraph.

Figure 1: Sample tabular energy analysis:

ENERGY ANALYSIS Code chapter and/or standard used for design Climate Zone [XXX (climate zone shall be identified here)]4A		
Item Description	**Proposed Design Value**	**Code Prescriptive Value and Citation**
([list]List all elements of the scope of work in the detail that they are addressed by the energy code.)	([list]List the value used in the design.)	([list]List the prescriptive value required by the Energy Code and provide the citation for such value.)

(ii) REScheck Software Program. The REScheck software program available from the United States Department of Energy website may be used for residential buildings as follows:

(A) New buildings. REScheck may be used for new residential buildings.

(B) Additions. REScheck may be used for additions only where a whole-building analysis, including the existing building and the addition, is performed.

(C) **Alterations and repairs**. REScheck may be used for alterations and repairs only where a whole-building analysis, including the existing-to-remain and altered envelope and mechanical systems, is performed.

(D) **New York State form**.

1. Only the New York State version of the REScheck form [shall be] is permitted.

2. For applications filed on or after December 28, 2010, the report must specify the 2010 Energy Conservation Construction Code of New York State.

3. For applications filed before December 28, 2010, 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.

(iii) **COMcheck.** The COMcheck software program available from the United States Department of Energy website may be used for commercial buildings as follows:

(A) **New buildings.** COMcheck may be used for new commercial buildings.

(B) **Additions.** COMcheck may be used for additions only as follows:

1. Where a whole-building analysis, including the existing building and the addition, is performed; or

2. Where the COMcheck report states “addition” as the project type.

(C) **Alterations and repairs.** COMcheck may be used for alterations and repairs only as follows:

1. Where a whole-building analysis, including the existing-to-remain and altered parts of the building, is performed; or

2. Where the COMcheck report states “alteration” as the project type.

(D) **COMcheck versions.** [Only] Applicants must use only the New York State COMcheck form [shall be permitted, except that where ASHRAE 90.1 is used in accordance with ECC Chapter 8, the comparable ASHRAE 90.1 COMcheck form shall be used instead] or the ASHRAE 90.1 COMcheck form, whichever reflects the standard used for project design.

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.

Where ECC Chapter 5 has been used for design, the report must specify the 2010 Energy Conservation Construction Code of New York State version of COMcheck unless a stand-alone New York State-specific version of the software is no longer supported. In the event that a New York State-specific version is no longer supported, the report must specify the 2007 ASHRAE 90.1 version of the software.

Where ASHRAE 90.1 has been used for design, the report must specify the 2007 ASHRAE 90.1 version of the software.

(iv) Energy [cost budget worksheet] modeling based on DOE2. For new commercial buildings and additions or alterations to commercial buildings, where [the Energy Cost Budget Method of ASHRAE 90.1 is] trade-offs among disciplines and/or the performance path are used in accordance with section ECC [Chapter 8]506 or ASHRAE 90.1 section 11, an energy modeling program developed by the United States Department of Energy, including DOE2 or updates of DOE2, shall be used; such updates include DOE2.1E, VisualDOE, EnergyPlus and eQuest.

Other energy modeling programs must be approved by the Secretary of State of New York State [may also be used. The lead energy professional shall identify the software and report inputs and outputs on a Department form.]and the commissioner. The commissioner may at his or her discretion require the energy modeling report to be submitted to the Department.

The applicant shall provide the project-relevant utility company energy cost time-of-use rate structure in effect on January 1 of the calendar year in which the initial filing of the project application(s) occurs, and shall utilize the time-of-use electricity, gas and steam prices from the rate structure in the energy model. Fuel oil prices used in the model shall be supported by comparable local supplier information from the provider in effect on January 1 of such calendar year.

The results of the energy modeling report must be reported on a Department form.

(v) Alternative formats. Formats other than those listed in subparagraphs i through iv of this paragraph, including, but not limited to, [the simulated performance alternative set forth in section ECC 404 or the total building performance method set forth in section ECC 806, may be used only if they are approved in advance by the commissioner. Use of these performance methods, when approved by the commissioner, shall utilize software programs acceptable to the commissioner. The applicant shall provide the project-relevant utility company energy cost rate structure in effect on January 1 of the calendar year in which the initial submission of the project application(s) is filed, and shall utilize the electricity, gas and steam prices from the rate structure in the energy model. Fuel oil prices used in the model shall be supported by comparable local supplier information from the provider in effect on January 1 of such calendar year.]the home energy software programs described in section ECC 101.5.1, may be used for a project only if they are approved in advance by both the Secretary of State of New York State and the commissioner.

(2) Mixed-occupancy buildings three stories or fewer. In accordance with section ECC 101.4.6, buildings three stories or fewer above grade with mixed residential and non-residential occupancies must comply with the respective requirements of Chapters 4 and 5, and must have separate energy analyses, except that a tabular analysis format may be used to show both the residential and non-residential requirements.

(3) Build-outs of tenant space prior to issuance of new building certificate of occupancy. The energy analysis for any alteration application for a build-out of a new building tenant space before the final certificate of occupancy is issued must be consistent with the energy analysis for the new building. Such energy analysis for the new building must be provided upon request.

([2]**4) Professional responsibility for energy analysis.** The energy analysis shall be signed and sealed by registered design professional(s)[as follows:].

[**(i) Lead professional.** Where a whole-building analysis is performed for the energy analysis or where the design uses tradeoffs such that one or more systems of the energy analysis – envelope, mechanical/ service water heating and lighting/power – could not meet the prescriptive requirements of the Energy Code on its own, a lead professional shall be identified who shall sign and seal the entire energy analysis for all systems involved. Such lead

professional shall be a registered design professional and may or may not be an applicant of record.

(ii) Responsibility by discipline. Where each system of the energy analysis – envelope, mechanical/service water heating and lighting/power – meets the prescriptive requirements of the Energy Code individually, different registered design professionals may sign and seal their respective parts of the energy analysis report individually; however, all parts of the energy analysis report shall be presented together on a sheet in the drawing set of the initial filing.]

(i) Election. The project team must elect one of the following methods for performing the energy analysis:

(A) Responsibility by discipline. Where each system of the energy analysis – envelope, mechanical/service water heating and lighting/power – meets the prescriptive requirements of the Energy Code individually, different registered design professionals may sign and seal their respective parts of the energy analysis report and include them as follows:

1. If all such systems are filed with the Department under the same application number, each registered design professional may include his or her part of the energy analysis in his or her respective parts of the project construction drawings.
2. If such systems are filed with the Department under different application numbers, all parts of the energy analysis shall be filed in the initial application for the project; except that in the case of foundation and earthwork permits issued pursuant to section 28-104.2.5, the energy analysis for the new building project must be submitted with subsequent construction documents. Refer also to paragraph (5) of this subdivision.

(B) Lead professional. Where energy modeling (whole-building analysis) is performed for the energy analysis or where the project design uses tradeoffs among disciplines such that one or more systems of the energy analysis – envelope, mechanical/service water heating and lighting/power – could not meet the prescriptive or performance requirements of the Energy Code on its own, a lead professional must be identified who must sign and seal the entire energy analysis for all systems involved.

The energy modeling program must be based on the DOE2 energy modeling software in accordance with subparagraph (iv) of paragraph (1) of this subdivision. The energy analysis must be presented in the construction drawings for one application only. The lead professional must be a registered design professional and need not be a design applicant.

(ii[i]) Registered design professional other than [an] a design applicant [of record]. A registered design professional other than [an] a design applicant [of record] may prepare, sign and seal the energy analysis, either as lead professional or for individual discipline(s) in accordance with subparagraph [ii]i of this paragraph. Such registered design professional shall file a PW1 form as a subsequent filing [to the initial application document] and indicate "Energy" or "Electrical" as applicable in Section 6D, OT - Other.

(5) Foundation and earthwork permits. When phased or partial approval is requested by the applicant for the purpose of issuance of a foundation and earthwork permit in accordance with §28-104.2.5 of the *Administrative Code*, a tabular analysis must be filed showing the foundation insulation requirements of the ECC. Refer also to subclause 2 of clause (A) of subparagraph (i) of paragraph (4) of this subdivision.

§6. Subdivision g of section 5000-01 of Chapter 5000 of Title 1 of the Rules of the City of New York is 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.

In addition, other mandatory Energy Code requirements shall be provided as described in paragraphs 1 through [4 and as referenced in paragraph] 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 [constructed]built in accordance with the approved construction documents [and subdivision h of this section] 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 [vapor retarders, and the] air barriers. 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 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.

(2) Mechanical/service water heating. Mechanical system design criteria, and mechanical and service water heating system and equipment types, sizes and efficiencies shall be provided.

Space heating and cooling equipment, energy recovery equipment, economizers, ventilation equipment, service water heating equipment, and mandatory requirements including control systems, duct sealing and duct and piping insulation shall be shown on the construction drawings and shall be equal to or greater than the energy efficiency requirements established in the energy analysis, the Energy Code and/or this section, as applicable. A narrative shall be provided for each mandatory control system describing its function and operation and specifying proper setpoints of equipment and controls.

> **[(i) Joints and sealing in residential buildings.** In accordance with the New York State Residential Code as referenced in the Energy Code, joints of duct systems in residential buildings shall be made substantially airtight by means of tapes, mastics or gasketing. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked "181A-P" for pressure-sensitive tape, "181A-M" for mastic or "181A-H" for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181B-FX" for pressure-sensitive tape or "181B-M" for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Crimp joints for round ducts shall have a contact lap of at least 1.5 inches (38 mm) and shall be mechanically fastened by means of at least three sheet metal screws or rivets equally spaced around the joint.]

(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:

[(3) Lighting/power.] **(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, [ballast/transformer type,] and system input watts per fixture, such that the drawings support the energy analysis.

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

Control devices and zones shall be indicated on drawings. [Lighting documentation shall not be required within dwelling units as such term is defined in the Energy Code and for buildings regulated by ECC Chapter 4.]

(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 505.6.2(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 motors and controls. Fan motor horsepower and controls must be shown on the drawings and described.

(iv) Feeders. For applications using ASHRAE 90.1 for compliance, calculated feeder voltage drops must be provided in accordance with ASHRAE 90.1 section 8.4.

[(4) Electrical construction drawings required. Construction documents, including a single-line diagram of the building or tenant electrical distribution system and other relevant electrical construction drawings, shall be submitted as supporting documentation if required for any of the following: to support the energy analysis; to satisfy mandatory requirements of the Energy Code, such as controls, transformer, metering, voltage drop and electric motor requirements; or to support progress inspections required by this section. Such drawings shall be numbered with an "EN" discipline designator and shall be signed and sealed by a registered design professional. Such registered design professional, if not an applicant of record, shall file a PW1 form as a subsequent filing to the initial application document.]

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

For residential buildings, references for such requirements are listed in Section ECC [404.2]401.2.

For commercial buildings complying with ECC Chapter [8]5 provisions, references for such requirements are listed [as the Exceptions to Section ECC 801.2;]throughout Chapter 5 or, if Section 506 is used, in Section ECC 506.2; for commercial buildings complying with ASHRAE 90.1, such requirements are set forth in Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4.

Exception: Sections ECC 402.5 and 502.5 shall not be mandatory as vapor barriers are not required in Zone 4A.

[(6)](5) Permanent certificate in residential buildings. For residential buildings, the construction documents shall indicate the following [with regard to the permanent certificate required] in accordance with Section ECC 401.3:

(i) New buildings. For new buildings regulated under ECC Chapter 4, a permanent certificate shall be required to be installed indoors and in accordance with Section ECC 401.3, 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)](6) Deferred submittals. Drawings showing design intent and performance criteria matching those in the energy analysis may be submitted as supporting documentation [for the initial construction document approval] provided that, in accordance with Section 28-104.2.6 of the Administrative Code, the applicant [elects to defer any additional drawings that may be required by Section 28-104.7.1.] lists such deferred submittals in the construction drawings and submits them for approval prior to installation or construction. If required, the energy analysis must be updated when deferred submittals are provided for approval.

[(8)](7) Required progress inspections. Supporting documentation shall also set forth all applicable required progress inspections in accordance with the Energy Code, 1 RCNY §101-07 and this section.

(i) Applicant's instructions regarding required progress inspections. Progress inspections required to be performed during construction for any new building, addition or alteration project shall be identified by the design applicant according to the scope of work and listed and described in the approved construction drawings as required progress inspections.

The description shall set forth the standard of construction and the inspection criteria [in accordance with the cited section(s)]as appropriate for the scope of work in accordance with Table I or Table II of subdivision (h) of this section, as applicable; simple reference to the citations provided, without such description, is not sufficient.

The applicant shall include the instruction that, in accordance with Sections BC 109.9 and ECC 104.2.3, where an inspection or test fails, the construction shall be corrected and must be made available for reinspection and/or retesting by the progress inspector until it complies.

For additions and alterations, the applicant must clearly indicate what portions of the altered systems should be inspected and/or tested, and what inspection and/or testing may be outside the scope of the work.

(ii) Construction scheduling instructions. The drawings shall state that, in accordance with Article 116 of Title 28 and Section BC 109, construction shall be scheduled to allow required progress inspections to take place, and that roofs, ceilings, exterior walls, interior walls, floors, foundations, basements and any other construction shall not be covered or enclosed until required progress inspections are completed or the progress inspector indicates that such covering or enclosure may proceed, at each stage of construction, as applicable.

(iii) Commercial building reference standards and citations. Progress inspection reference standards and citations shall conform to the respective requirements of ECC Chapter [(8)]5 or ASHRAE 90.1 as used for design, in accordance with the following:

(A) When ECC Chapter [(8)]5 has been used for the project design, as reflected in the energy analysis, the applicant shall [direct]list on the drawings [that]the respective references and citations for ECC [shall be used]for the progress inspection.

(B) When ASHRAE 90.1 has been used for the project design, as reflected in the energy analysis, the applicant shall [direct]list on the drawings [that]the respective references and citations for ASHRAE 90.1 [shall be used]for the progress inspection.

§7. Subdivision h of section 5000-01 of Chapter 5000 of Title 1 of the Rules of the City of New York is 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. Energy Code sections cited in Tables I and II of this section shall

be understood to include the section, all subsections, [and]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 4. 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.

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

	Inspection/ Test	**Frequency (minimum)**	**Reference Standard (See ECC Chapter [(10)]6) 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	[102.2.1] 303.2.1
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	[102.1] 303.1, 303.1.1, 303.1.2, 402.1, 402.2, [402.2.5] 402.4.2.2, Table 402.4.2

IA3	**Fenestration thermal values and product ratings** [for U-factors]: U-factors of installed fenestration shall be verified by visual inspection for conformance with the U-factors identified in the construction drawings, either by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables [102]303.1.3(1) and (2).	As required during installation	Approved construction drawings; NFRC 100[, Tables 102.1.3]	[102.1.3] 303.1, 303.1.3, 402.1, 402.3, 402.6
IA4	**Fenestration product ratings for 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[, or AAMA/WDMA 101/I.S.2/NAFS]/A440	402.4.[2]4
IA5	**Fenestration areas**: Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	402.3, [402.5.1] 402.6
IA6	[Sealing]**Air sealing and insulation – visual inspection option**: Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that they are properly sealed, in accordance with Table 402.4.2.	As required during envelope construction	Approved construction documents; ASTM E283; ASTM E84; RCNYS	402.4.1, 402.4.2.2, 402.4.3
IA7	[Whole building envelope infiltration testing: When the R values of ECC Table 402.1(2) are used for the design, and ECC 402.1, Exception 3.1 is utilized as a result, the results of the air change test shall be reviewed for compliance with ECC 402.4.4.] **Air sealing and insulation – testing option**: Testing shall be performed in	Prior to final construction inspection	ASHRAE/ASTM E779; ANSI Z65; Approved construction documents	[402.4.4] 402.4.2.1

	accordance with section ECC 402.4.2.1 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.			
[IA8]	[Moisture control, vapor retarder: Construction, including, but not limited to, above-grade frame walls, floors and ceilings that are not ventilated to allow moisture to escape, shall be visually inspected for installation of vapor retarder.]	[As required during envelope construction and prior to covering vapor retarder]	[Approved construction documents]	[402.5]
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; ANSI Z21.60 (see also MC 904), ANSI Z21.50	[102.5] 303.1.5; BC 2111; MC Chapters 7, 9; FGC Chapter 6
IB2	[Fresh]**Outdoor air intake and exhaust 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, 403.7, 503
IB3	**Equipment** [efficiencies]: [When the R values of ECC Table 402.1(2) are used for the design, and ECC 402.1, Exception 3.3 is utilized as a result, the efficiencies of all installed mechanical]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 Manual J; Approved construction documents, including energy analysis	403.6, 403.7, 403.9, 503
IB4	**Controls**: System controls shall be inspected to verify that each dwelling is provided	Prior to final electrical and construction inspection	Approved construction documents, including	403.1, [403.1.1]403.4, 403.7, 403.8,

	with at least one individual programmable thermostat[s] with capabilities as described in ECC 403.1.1, and that such controls are set and operate as specified in ECC 403.1.1. 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. 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.		control system narratives	403.9, 503, 504
IB5	**Duct and piping insulation and duct 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.	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; RCNYS M1601.3.1	403.2.1, 403.2.2, 403.3, 403.4, 403.7, 503, 504; MC Section 603; 1RCNY §5000-01
IB6	**Duct leakage testing**: [When the R values of ECC Table 402.1(2) are used for the design, and ECC 402.1, Exception 3.2 is utilized as a result, the results of the duct leakage tests shall be reviewed for compliance with ECC 403.2.4.]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. Not less than 20%	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; ANSI/ASHRAE 152, ASTM E1554 Test Method A	[403.2.4] 403.2.2, 403.7, 503

	of such ductwork shall be tested.			
IC [Other]Electrical Power and Lighting Systems				
IC1	**Electrical metering**: 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.	Prior to final electrical and construction inspection	Approved construction documents	[102.4] 404.2
IC2	[Transformers: Single-phase and three phase dry-type and liquid-filled distribution transformers installed as part of the scope of work (and not by the utility) shall be visually inspected to ensure that the installed transformers are listed and labeled to the referenced standard, or that associated product literature confirms that the transformers meet the referenced standard.]**Lighting in dwelling units**: Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents[; NEMA TP1]	[102.6, 805.7] 404.1
[IC3]	**[Permanent certificate**: The installed permanent certificate shall be visually inspected for location, completeness and accuracy.]	[Prior to final inspection]	[Approved construction documents]	[401.3; 1RCNY 5000-01]
[IC4]	[**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	[Prior to sign-off or issuance of Certificate of Occupancy]	[Approved construction documents]	[102.3]

	accuracy and completeness and for compliance with ECC 102.3.]			
ID Other				
ID1	**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.	Prior to sign-off or issuance of Certificate of Occupancy	Approved construction documents	303.3
ID2	**Permanent certificate**: The installed permanent certificate shall be visually inspected for location, completeness and accuracy.	Prior to final plumbing, electrical and/or construction inspection as applicable	Approved construction documents	401.3; 1RCNY 5000-01(g)(5)

(2) Commercial buildings. The progress inspections and tests described in Table II shall be performed for buildings regulated by either ECC Chapter [8, including]5 or ASHRAE 90.1 [where]as applicable.

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

	Inspection/ Test	**Periodic (minimum)**	**Reference Standard (See ECC Chapter [10]6) or Other Criteria**	**ECC or Other Citation**
IIA Envelope Inspections				
IIA1	**Protection of exposed foundation insulation**:	As required during foundation	Approved construction documents	[102.2.1] 303.2.1; ASHRAE

	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.	work and prior to backfill		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	[102.1, 802.2, Tables 802.2;] 303.1, 303.1.1, 303.1.2, 502.1, 502.2; ASHRAE 90.1 – [5.4.1] 5.5, 5.6[.] or 11; 5.8.1
IIA3	**Fenestration thermal values and product ratings** [for U-factors and SHGC values]: U-factors and SHGC values of installed fenestration shall be visually inspected for conformance with the U-factors and SHGC values identified in the construction drawings by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables [102]303.1.3(1), (2) and (3). Where ASHRAE 90.1 is used, visible light transmittance values shall also be verified.	As required during installation	Approved construction documents; NFRC 100, NFRC 200[, Tables 102.1.3]	[102.1.3, Tables 802.2.] 303.1, 303.1.3; 502.3; ASHRAE 90.1– [5.4.2, 5.5.4, Tables] 5.5; 5.6[,] or 11; 5.8.2
IIA4	**Fenestration and door assembly product ratings for air leakage**: Windows[, skylights] and sliding or swinging door assemblies, except site-built windows[, skylights] and/or doors, shall be visually inspected to	As required during installation; prior to final construction inspection	NFRC 400, AAMA/WDMA /CSA 101/ I.S.2[, AAMA/WDMA 101/I.S.2/NAF S-02;]/A440;	[802.3.1, 802.3.2;] 502.4; ASHRAE 90.1 – [5.4.3.1,] 5.4.3.2[,5.5.4,

	verify that installed assemblies are 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.		ASTM E283; ANSI/DASMA 105	5.6, 5.8.2]
IIA5	**Fenestration areas**: Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	[802.2;] 502.3; ASHRAE 90.1 – 5.5.4[.1], 5.6 or 11
IIA6	**Sealing**: Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that [they are properly sealed.]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 the requirements of the standard, in accordance with the standard(s) cited in the approved plans.	As required during construction	Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	[802.3.3, 802.3.5, 802.3.6, 802.3.7;] 502.4.3, 502.4.7; ASHRAE 90.1 – 5.4.3.1[, 5.4.3.3 5.4.3.4]
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 [against] for conformance with approved plans by visual inspection.	Prior to final construction inspection	Approved construction documents, including energy analysis	[Tables 802.2; 802.2.3] 502.3; ASHRAE 90.1 – 5.5,4, 5.6 or 11
IIA8	[Moisture control, vapor retarder:	[As required	Approved	[802.1.2]

	Framed walls, floors and ceilings that are not ventilated to allow moisture to escape, shall be visually inspected for installation of a vapor retarder for moisture control.]**Loading dock weatherseals**: Weatherseals at loading docks shall be visually verified.	during construction of envelope and prior to covering vapor barrier] Prior to final construction inspection	construction documents[; ASTM E96 Procedure A]	502.4.5; ASHRAE 90.1 – 5.4.3.3
IIA9	**Building entrance vestibules**: Required entrance vestibules shall be visually inspected for proper operation.	Prior to final construction inspection	Approved construction documents	502.4.6; 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	[102.5;] 303.1.5; BC 2111; MC Chapters 7, 9; FGC Chapter 6
IIB2	[Dampers integral to the building thermal envelope:]**Outdoor air intakes and exhaust openings**: 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 [openings are equipped with motorized dampers that have been tested and listed or labeled. If such dampers are not listed or labeled, they shall be tested and shall meet the requirements to the satisfaction of the progress inspector.]dampers, except where permitted to be gravity dampers, comply with approved construction drawings. Manufacturer's literature shall be reviewed to verify that the product	As required during installation	Approved construction documents; AMCA 500D	[802.3.4] 502.4.4; ASHRAE 90.1 – 6.4.3.4[.4]

	has been tested and found to meet the standard.			
IIB3	**HVAC** [and], **service water heating and pool equipment sizing and performance**: Equipment sizing, efficiencies 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. Pool heaters and covers shall be verified by visual inspection.	Prior to final plumbing and construction inspection	Approved construction documents	[803.2.2, Tables 803.2.2; 803.3.2, Tables 803.3.2; 804.2, Table 804.2; ASHRAE 90.1 – 6.1, 6.3, 6.4.1, 6.8, Tables 6.8.1; 7.4.2, Table 7.8] 503.2, 504.2, 504.7; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8
IIB4	**HVAC system controls and economizers and service hot water 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: ▪ Thermostatic[;] ▪ Set point overlap restriction[;] ▪ Off-hour[;] ▪ Shutoff damper[;] ▪ Snow-melt system ▪ Demand control systems ▪ Outdoor heating systems ▪ Zones ▪ Economizers[;] ▪ Air systems ▪ Variable air volume fan[;] ▪ Hydronic systems[;] ▪ Heat rejection equipment fan	After installation and [before] 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 Commission-ing Process, where applicable	[803.2.3, 803.2.4, 803.2.5, 803.2.6, 803.2.7, 803.3.3, 803.3.4, 803.3.5, 803.3.9, 804.3, 804.6; ASHRAE 90.1 – 6.3, 6.4.3, 6.5, 6.7.2.4, 7.4.4, Appendix E ; 1RCNY 5000-01(g)(2)] 503.2.4, 503.2.5.1, 503.2.11, 503.3, 503.4, 504.3, 504.6, 504.7; ASHRAE

	speed[;] ▪ 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 hoods[;] ▪ Radiant heating systems[; and Hot gas bypass systems]. **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. 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. For such supplemental inspections, the Department shall be notified by the approved progress inspection [approved] agency of any unresolved deficiencies in the			90.1 – 6.3, 6.4, 6.5, 6.7.2.4, 7.4.4, 7.4.5

	installed work within 180 days of such supplemental inspection.			
IIB5	**Duct, plenum and piping insulation and sealing**: Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing.	After installation and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA Duct Construction Standards, Metal and Flexible[; UL 181A or UL 181B]	[803.2.8, 803.2.9, 803.3.6, 803.3.7, 804.5; ASHRAE 90.1 – 6.3, 6.4.4.1, 6.4.4.2.1, Tables 6.8.2 and 6.8.3; 7.4.3] 503.2.7, 503.2.8, 504.5; ASHRAE 90.1 – 6.3, 6.4.4.2, 6.8.2, 6.8.3; 7.4.3
IIB6	**Air leakage testing for high-pressure duct systems**: For duct systems designed to operate at static pressures in excess of 3 inches w.g. (746 Pa)[: Representative], representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, per ECC [803.3.6]503.2.7.1.3, shall be tested to verify that actual air leakage is below allowable amounts.	After installation and sealing and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual	[803.2.8.1.1, 803.3.6;] 503.2.7.1.3; ASHRAE 90.1 – 6.4.4.2[.2]
IIC Electrical Power and Lighting Systems				
IIC1	**Electrical metering**: The presence and operation of individual meters or other means of monitoring individual apartments shall be verified by visual inspection for all apartments.	Prior to final electrical and construction inspection	Approved construction documents	[102.4; 805.8] 505.7
IIC2	[Transformers: Single-phase and three phase dry-type and liquid-filled	Prior to final electrical and	Approved construction	[102.6, 805.7] 505.5.3

	distribution transformers shall be visually inspected to ensure that the installed transformers are listed and labeled to the referenced standard, or that associated product literature confirms that the transformers meet the referenced standard.]**Lighting in dwelling units**: Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.	construction inspection	documents[; NEMA TP1]	
IIC3	[Electric 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.]**Interior lighting power**: Installed lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers.	Prior to final electrical and construction inspection	Approved construction documents	505.5; ASHRAE 90.1 – [10.4.1] 9.1, 9.2, 9.5, 9.6; 1RCNY §101-07(c)(3)(v)(C)4
IIC4	[Lighting controls: Not less than 15% of each type of required lighting controls, including manual interior lighting controls, light-reduction controls, automatic lighting shut-off, guestroom controls, exterior building lighting controls and exterior grounds lighting controls, shall be verified by visual inspection and tested for functionality and proper operation.]**Exterior lighting**: 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[, including control system narratives]	[805.2; ASHRAE 90.1 – 9.1, 9.4.1; 1RCNY 5000-01(g)(3)]505.6; ASHRAE 90.1 – 9.4.4, 9.4.5; 1RCNY §101-07(c)(3)(v)(C)4

IIC5	[Tandem wiring: Tandem wiring shall be tested for functionality.]**Lighting controls**: Each type of required lighting controls, including: ▪ 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	[805.3;] 505.2, 505.2.2.2; ASHRAE 90.1 – [9.4.2] 9.4.1, 9.4.1.2 (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	[805.4;] 505.4; ASHRAE 90.1 – 9.4.3
IIC7	[Interior lighting power: Installed lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and relevant transformers.]**Tandem wiring**: Tandem wiring shall be tested for functionality.	Prior to final electrical and construction inspection	Approved construction documents	[805.5; ASHRAE 90.1 – 9.1.3, 9.1.4, 9.2.1, 9.5, 9.6; 1RCNY 5000-01(i)] 505.3; ASHRAE 90.1 – 9.4.2
IIC8	[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.]**Electric motors (including but not limited to fan motors**): Where required by the construction	Prior to final electrical and construction inspection	Approved construction documents	[805.6; ASHRAE 90.1 – 9.1.1, 9.4.4, 9.4.5] 503.2.10; ASHRAE 90.1 – 10.4

	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.			
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 completeness[and for compliance with ECC 102.3].	Prior to sign-off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documenta-tion for Building Systems	[102.3; 803.3.8.3;] 303.3, 503.2.9.3; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2

§8. Subdivision i of section 5000-01 of Chapter 5000 of Title 1 of the Rules of the City of New York is amended to read as follows:

(i) Energy Analysis of Constructed Conditions. In accordance with Section 28-104.3 of the Administrative Code and section ECC 103.4, if constructed work differs from the last-approved full energy analysis, an as-built energy analysis shall be submitted[as a post-approval amendment] to the Department, listing the actual values used in the building for all applicable Energy Code-regulated items and demonstrating that the building complies with the Energy Code. Such energy analysis shall be signed and sealed by a registered design professional[, who]. The progress inspector shall certify that to the best of his or her knowledge and belief the building as built complies with [the Energy Code;] such signed and sealed energy analysis and construction drawings for energy code compliance; where no trade-offs have been used among disciplines, more than one registered design professional may sign and seal the elements of the energy analysis. The energy analysis shall be approved or accepted by the Department prior to sign-off[or issuance of the certificate of occupancy].

This rule has an effective date of 09-07-10.

NOTICE OF ADOPTION OF RULE

Notice is hereby given pursuant to the authority vested in the Commissioner of Buildings by section 643 of the New York City Charter, and in accordance with section 1043 of the Charter, that the Department of Buildings hereby adopts amended Section 101-07 of Chapter 100 of Title 1 of the Rules of the City of New York, regarding approved progress inspection agencies, and new Chapter 5000 of Title 1 of the Rules of the City of New York, regarding construction documents approval requirements for compliance with the New York City Energy Code.

This rule was first published on April 16, 2010, and a public hearing thereon was held on May 18, 2010. This rule shall take effect on September 7, 2010.

Dated: 6/17/10
New York, New York

Robert D. LiMandri
Commissioner

Section 1. Paragraph 3 of subdivision c of section 101-07 of Chapter 100 of Title 1 of the Rules of the City of New York is amended to read as follows:

(3) Progress inspection agencies.

(i) Responsibility of owner. It shall be the responsibility of the owner to retain an approved agency to perform all required progress inspections for a new building or alteration project.

(ii) Obligation to avoid conflict of interest. A progress inspector and/or a progress inspection agency shall not engage in any activities that may conflict with their objective judgment and integrity, including, but not limited to, having a financial and/or other interest in the construction, installation, manufacture or maintenance of structures or components that they inspect.

([i]iii) Agency qualifications. Registered design professionals with relevant experience shall be deemed approved progress inspection agencies, without further requirement of registration or accreditation, for the purpose of conducting the progress inspections required by section BC 109.3 [of the building code]. [Such progress inspections shall include the following:

(A) Preliminary. See section 28-116.2.1 of the New York City Administrative Code and section 109.2 of the building code.

(B) Footing & foundation. See section 109.3.1 of the building code.

(C) Lowest floor elevation. See section 109.3.2 of the building code.

(D) Frame inspection. See section 109.3.3 of the building code.

(E) Energy Code Compliance Inspections. See section 109.3.5 of the building code.

(F) Fire-resistant rated construction. See section 109.3.1 of the building code.

(G) Final. See section 28-116.2.4.2 of the New York City Administrative Code and section 109.5 of the building code.

(H) Public assembly emergency lighting. See sections 1006 and 1024 of the building code and section 28-116.2.2 of the Administrative Code.]

([ii]iv) Inspector qualifications. A progress inspection agency shall conduct required progress inspections, provided such inspections are conducted by a registered design professional with relevant experience or [a person under such design professional's direct supervision.] an otherwise qualified individual pursuant to the following table:

Progress Inspection Category	**2008 Code Section**	**Qualifications**	
		Primary Inspector or Inspection Supervisor	**Supplemental Inspector** under direct supervision of Inspection Supervisor
Preliminary inspection	AC 28-116.2.1	• Registered design professional with relevant experience	• A person with relevant experience
Compliance inspections	AC 28-116.2.2	• Registered design professional with relevant experience	• A person with relevant experience
Footing and foundation	BC 109.3.1	• Registered design professional with relevant experience	• A person with relevant experience
Lowest floor elevation	BC 109.3.2; BC G105.3, Item 1	• Engineer with relevant experience or licensed professional land surveyor with relevant experience	• A person with relevant experience
Frame	BC 109.3.3	• Registered design professional with relevant experience	• A person with relevant experience
Fire-resistance-rated construction	BC 109.3.4	• Registered design professional with relevant experience	• A person with relevant experience
Energy code compliance – "residential"[1] buildings	BC 109.3.5	• Registered design professional of record for the respective work; or • Registered design professional with five years experience in the design, construction, construction observation and/or inspection of Energy Code-	• 3 years experience in the inspection or construction observation of buildings for Energy Code-regulated systems

[1] As such term "residential" is defined in the New York City Energy Conservation Code.

		regulated systems for buildings	
Energy code compliance – "commercial"[2] buildings	BC 109.3.5	• Registered design professional of record for the respective work; or • Registered design professional with five years experience in the design, construction, construction observation and/or inspection of Energy Code-regulated systems for commercial buildings, at least three years of which shall be for the system type(s) for which he/she performs progress inspections	• 3 years experience in the inspection or construction observation of the system type(s) for Energy Code–regulated systems in commercial buildings for which he/she performs progress inspections
Other	BC 109.3.6	• Registered design professional with relevant experience	• A person with relevant experience
Final	AC 28-116.2.4.2	• Registered design professional with relevant experience	• A person with relevant experience
Place of assembly emergency lighting	AC 28-116.2.2	• Registered design professional with relevant experience	• A person with relevant experience

([iii]v) Verifications by progress inspector. In addition to all other items required to be inspected in accordance with applicable laws and rules, the progress inspector shall verify the following:

(A) Completion of related special inspections. A progress inspection agency's performance of a progress inspection shall include verification that any special inspections that were required to have been conducted prior to the progress inspection have been documented as completed.

(B) Updated approved documents. Prior to performing a progress inspection, the progress inspection agency shall verify that the relevant approved construction documents, for the purpose of the progress inspection, represent the built conditions. If changes are required in the approved construction documents for the purpose of the progress inspection, the progress inspector shall

[2] As such term "commercial" is defined in the New York City Energy Conservation Code.

wait to perform the inspections until the updated construction documents have been approved, including the energy analysis, where applicable.

(C) Energy code verifications. Progress inspectors for Energy Code compliance shall perform inspections in accordance with the following:

1. Sampling. Unless noted otherwise in the Inspection/Test columns of Tables I and II of 1 RCNY §5000-01 (h), required inspections or tests shall be performed on not less than 15% of each relevant construction item in the scope of work as listed in the applicable table, and on not less than one of each type where applicable. Selection of such sample construction shall be at the sole discretion of the progress inspector. Nothing in this item shall prevent the progress inspector from determining that, in his or her professional judgment, more than 15% of a given type of construction item shall be inspected.

2. Phased inspection for temporary certificates of occupancy. Prior to issuance of a temporary certificate of occupancy for less than the total scope of work, inspection shall be required for all work serving the portion of the building for which the temporary certificate of occupancy is to be issued. Where a practical difficulty for some inspections is demonstrated to the commissioner, the commissioner may grant a waiver of those inspections for a specified time or until final inspection for the final certificate of occupancy.

3. Phased inspection of controls. Notwithstanding item 2 of this clause, where inspection of the HVAC and lighting controls for central head-end systems and communication networks depends upon completion of installation of all related end devices and components located in the building, such inspection of such controls for head-end systems and communication networks shall be completed prior to issuance of a final certificate of occupancy.

4. Lighting. Where the progress inspector verifies that, for any given space, the lighting power density is less than the lighting power density for such space on the approved construction documents, the progress inspector may approve such space without the need for revised construction documents to be submitted to and approved by the Department. For the purposes of this item, a space shall

mean an area within the building separated by floor-to-ceiling partitions from all other spaces within the building.

§2. Title 1 of the Rules of the City of New York is amended by adding a new Chapter 5000 to read as follows:

Chapter 5000 – New York City Energy Conservation Code

§5000-01 Construction document approval requirements for compliance with the New York City Energy Conservation Code

(a) Purpose. This section sets forth the requirements for filing and approval of construction documents and the universe of progress inspections during construction, in accordance with the New York City Energy Conservation Code.

(b) References: See New York City Energy Conservation Code (Administrative Code Sections 28-1001.1 et seq.); New York State Energy Conservation Construction Code (19 NYCRR part 1240); Administrative Code Section 28-104.7.9, Sections BC106.13 and BC109.3.5; 1 RCNY §101-07 ("Inspections and Approved Agencies").

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

(1) ADDITION. An addition as defined in the Energy Code.

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

(3) ENERGY CODE. The New York City Energy Conservation Code ("ECC").

(4) PROJECT. A design and construction undertaking comprised of work related to one or more buildings and the site improvements. A project is represented by one or more plan/work applications, including construction documents compiled in accordance with Section BC 106 of the New York City Building Code, that relate either to the construction of a new building or buildings or to the demolition or alteration of an existing building or buildings. Applications for a project may have different registered design professionals and different job numbers, and may result in the issuance of one or more permits.

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

(d) Professional statement. Every application filed by a registered design professional for approval of construction documents, shall include a professional statement of compliance with the Energy Code as set forth in Section BC 106.13; however, if the project is exempt from the requirements of the Energy Code in accordance with Section ECC 101, the professional shall include a statement of exemption instead and provide the citation to the provision that allows the exemption.

(e) Owner statement. The owner of the property for which an application for construction document approval is being filed shall attest on the application form that he or she shall not knowingly authorize construction documents or construction work that fail to comply with the Energy Code.

(f) Energy analysis. The applicant shall include an energy analysis on a sheet in the construction drawing set in the initial application filing. The energy analysis shall demonstrate how the applicant intends to comply with the Energy Code.

Exception: An energy analysis is not required for a project that is exempt from the Energy Code.

(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 or 8 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, as applicable. Commercial building alterations and additions involving lighting may utilize the Lighting Application Worksheet from COMcheck and the tenant-area or portion-of-building method for the lighting analysis in lieu of including it in the tabular analysis. See subparagraph iii of this paragraph.

Figure 1: Sample tabular energy analysis:

ENERGY ANALYSIS Code chapter and/or standard used for design Climate Zone XXX (climate zone shall be identified here)		
Item Description	**Proposed Design Value**	**Code Prescriptive Value and Citation**
(list all elements of the	(list the value used in the	(list the prescriptive value

scope of work in detail that are addressed by the energy code)	design)	required by the Energy Code)

(ii) REScheck. The REScheck software program available from the United States Department of Energy website may be used for residential buildings as follows:

(A) New buildings. REScheck may be used for new residential buildings.

(B) Additions. REScheck may be used for additions only where a whole-building analysis, including the existing building and the addition, is performed.

(C) Alterations and repairs. REScheck may be used for alterations and repairs only where a whole-building analysis, including the existing-to-remain and altered envelope and mechanical systems, is performed.

(D) New York State form. Only the New York State REScheck form shall be permitted.

(iii) COMcheck. The COMcheck software program available from the United States Department of Energy website may be used for commercial buildings as follows:

(A) New buildings. COMcheck may be used for new commercial buildings.

(B) Additions. COMcheck may be used for additions only as follows:

1. Where a whole-building analysis, including the existing building and the addition, is performed; or

2. Where the COMcheck report states “addition” as the project type.

(C) Alterations and repairs. COMcheck may be used for alterations and repairs only as follows:

1. Where a whole-building analysis, including the existing-to-remain and altered parts of the building, is performed; or

2. Where the COMcheck report states “alteration” as the project type.

(D) COMcheck versions. Only the New York State COMcheck form shall be permitted, except that where ASHRAE 90.1 is used in accordance with ECC Chapter 8, the comparable ASHRAE 90.1 COMcheck form shall be used instead. 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.

(iv) Energy cost budget worksheet. For new commercial buildings and additions or alterations to commercial buildings, where the Energy Cost Budget Method of ASHRAE 90.1 is used in accordance with ECC Chapter 8, an energy modeling program developed by the United States Department of Energy, including DOE2 or updates of DOE2, shall be used; such updates include DOE2.1E, VisualDOE, EnergyPlus and eQuest. Other energy modeling programs approved by the Secretary of State of New York State may also be used. The lead energy professional shall identify the software and report inputs and outputs on a Department form.

(v) Alternative formats. Formats other than those listed in subparagraphs i through iv of this paragraph, including, but not limited to, the simulated performance alternative set forth in Section ECC 404 or the total building performance method set forth in Section ECC 806, may be used only if they are approved in advance by the commissioner. Use of these performance methods, when approved by the commissioner, shall utilize software programs acceptable to the commissioner. The applicant shall provide the project-relevant utility company energy cost rate structure in effect on January 1 of the calendar year in which the initial submission of the project application(s) is filed, and shall utilize the electricity, gas and steam prices from the rate structure in the energy model. Fuel oil prices used in the model shall be supported by comparable local supplier information from the provider in effect on January 1 of such calendar year.

(2) Professional responsibility for energy analysis. The energy analysis shall be signed and sealed by registered design professional(s) as follows:

(i) Lead professional. Where a whole-building analysis is performed for the energy analysis or where the design uses tradeoffs such that one or more systems of the energy analysis – envelope, mechanical/ service water heating and lighting/power – could not meet the prescriptive requirements of the Energy Code on its own, a lead professional shall be identified who shall sign and seal the entire energy analysis for all systems involved. Such lead professional shall be a registered design professional and may or may not be an applicant of record.

(ii) Responsibility by discipline. Where each system of the energy analysis – envelope, mechanical/service water heating and lighting/power – meets the prescriptive requirements of the Energy Code individually, different registered design professionals may sign and seal their respective parts of the energy analysis report individually; however, all parts of the energy analysis report shall be presented together on a sheet in the drawing set of the initial filing.

(iii) Registered design professional other than an applicant of record. A registered design professional other than an applicant of record may prepare, sign and seal the energy analysis, either as lead professional or for individual discipline(s) in accordance with subparagraph ii of this paragraph. Such registered design professional shall file a PW1 form as a subsequent filing to the initial application document.

(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. In addition, other mandatory Energy Code requirements shall be provided as described in paragraphs 1 through 4 and as referenced in paragraph 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 constructed in accordance with the approved construction documents and subdivision h of this section to meet the requirements of the Energy Code.

(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 vapor retarders, and the insulation in each case shall be labeled and shall be equal to or greater than the R values in the energy analysis. Door, window and skylight schedules shall include columns for U and SHGC values for each assembly type, and such values shall be equal to or less than those in the energy analysis. Mandatory requirements to prevent air and moisture leakage shall be detailed.

(2) Mechanical/service water heating. Space heating and cooling equipment, energy recovery equipment, ventilation equipment, service water heating equipment, and mandatory requirements including control systems, duct sealing and duct and piping insulation shall be shown on the construction drawings and shall be equal to or greater than the energy efficiency requirements established in the energy analysis, the Energy Code and/or this section, as applicable. A narrative shall be provided for

each mandatory control system describing its function and operation and specifying proper setpoints of equipment and controls.

(i) Joints and sealing in residential buildings. In accordance with the New York State Residential Code as referenced in the Energy Code, joints of duct systems in residential buildings shall be made substantially airtight by means of tapes, mastics or gasketing. Closure systems used with rigid fibrous glass ducts shall comply with UL 181A and shall be marked "181A-P" for pressure-sensitive tape, "181A-M" for mastic or "181A-H" for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked "181B-FX" for pressure-sensitive tape or "181B-M" for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Crimp joints for round ducts shall have a contact lap of at least 1.5 inches (38 mm) and shall be mechanically fastened by means of at least three sheet metal screws or rivets equally spaced around the joint.

(3) Lighting/power. 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, lamp type, watts per lamp, quantity of lamps per fixture, ballast/transformer type, 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. Lighting documentation shall not be required within dwelling units as such term is defined in the Energy Code and for buildings regulated by ECC Chapter 4.

(4) Electrical construction drawings required. Construction documents, including a single-line diagram of the building or tenant electrical distribution system and other relevant electrical construction drawings, shall be submitted as supporting documentation if required for any of the following: to support the energy analysis; to satisfy mandatory requirements of the Energy Code, such as controls, transformer, metering, voltage drop and electric motor requirements; or to support progress inspections required by this section. Such drawings shall be numbered with an “EN” discipline designator and shall be signed and sealed by a registered design professional. Such registered design professional, if not an applicant of record, shall file a PW1 form as a subsequent filing to the initial application document.

(5) Mandatory requirements. The construction documents shall comply with all mandatory requirements of the Energy Code. For residential buildings, references for such requirements are listed in Section ECC 404.2. For commercial buildings complying with ECC Chapter 8 provisions, references for such requirements are listed as the Exceptions to Section ECC 801.2; for commercial buildings complying with ASHRAE 90.1, such requirements are set forth in Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4.

(6) Permanent certificate in residential buildings. For residential buildings, the construction documents shall indicate the following with regard to the permanent certificate required in accordance with Section ECC 401.3:

(i) New buildings. For new buildings regulated under ECC Chapter 4, a permanent certificate shall be required to be installed indoors and in accordance with Section ECC 401.3, 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) Deferred submittals. Drawings showing design intent and performance criteria matching those in the energy analysis may be submitted as supporting documentation for the initial construction document approval provided that, in accordance with Section 28-104.2.6 of the Administrative Code, the applicant elects to defer any additional drawings that may be required by Section 28-104.7.1.

(8) Required progress inspections. Supporting documentation shall also set forth all applicable required progress inspections in accordance with the Energy Code, 1 RCNY §101-07 and this section.

(i) Applicant's instructions regarding required progress inspections. Progress inspections required to be performed during construction for any new building, addition or alteration project shall be identified by the applicant according to the scope of work and listed and described in the approved construction drawings as required progress inspections. The description shall set forth the standard of construction and the inspection criteria in accordance with the cited section(s) as appropriate for the scope of

work in accordance with Table I or Table II of subdivision h of this section, as applicable; simple reference to the citations provided is not sufficient. The applicant shall include the instruction that, in accordance with Section BC 109.9, where an inspection or test fails, the construction shall be corrected.

(ii) Construction scheduling instructions. The drawings shall state that, in accordance with Article 116 of Title 28 and Section BC 109, construction shall be scheduled to allow required progress inspections to take place, and that roofs, ceilings, exterior walls, interior walls, floors, foundations, basements and any other construction shall not be covered or enclosed until required progress inspections are completed or the progress inspector indicates that such covering or enclosure may proceed, at each stage of construction, as applicable.

(iii) Commercial building reference standards and citations. Progress inspection reference standards and citations shall conform to the respective requirements of ECC Chapter 8 or ASHRAE 90.1 as used for design, in accordance with the following:

(A) When ECC Chapter 8 has been used for design, as reflected in the energy analysis, the applicant shall direct on the drawings that the respective references and citations for ECC shall be used for the progress inspection.

(B) When ASHRAE 90.1 has been used for design, as reflected in the energy analysis, the applicant shall direct on the drawings that the respective references and citations for ASHRAE 90.1 shall be used for the progress inspection.

(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. Energy Code sections cited in Tables I and II of this section shall be understood to include the section, all subsections and all tables 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 4.

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

	Inspection/ Test	Frequency (minimum)	Reference Standard (See ECC Chapter 10) 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	102.2.1
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	102.1 402.1, 402.2, 402.2.5
IA3	Fenestration values and product ratings for U-factors: U-factors of installed fenestration shall be verified by visual inspection for conformance with the U-factors identified in the construction drawings, either by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables 102.1.3(1) and (2).	As required during installation	Approved construction drawings; NFRC 100, Tables 102.1.3	102.1.3, 402.1, 402.3
IA4	Fenestration product ratings for 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 101/I.S.2, or AAMA/WDMA 101/I.S.2/NAFS	402.4.2

IA5	Fenestration areas: Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final inspection	Approved construction documents	402.3, 402.5.1
IA6	Sealing: Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that they are properly sealed.	As required during envelope construc-tion	Approved construction documents	402.4.1, 402.4.3
IA7	Whole building envelope infiltration testing: When the R values of ECC Table 402.1(2) are used for the design, and ECC 402.1, Exception 3.1 is utilized as a result, the results of the air change test shall be reviewed for compliance with ECC 402.4.4.	Prior to final inspection	ASHRAE/ASTM E779; Approved construction documents	402.4.4
IA8	Moisture control, vapor retarder: Construction, including, but not limited to, above-grade frame walls, floors and ceilings that are not ventilated to allow moisture to escape, shall be visually inspected for installation of vapor retarder.	As required during envelope construc-tion and prior to covering vapor retarder	Approved construction documents	402.5
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 inspection	Approved construction documents; ANSI Z21.60 (see also MC 904), ANSI Z21.50	102.5; BC 2111; MC Chapters 7, 9; FGC Chapter 6
IB2	Fresh air intake and exhaust dampers: Not less than 20% of installed dampers, and a minimum of one of each type, shall be visually inspected and physically tested for proper operation.	Prior to final inspection	Approved construction documents	403.5

IB3	Equipment efficiencies: When the R values of ECC Table 402.1(2) are used for the design, and ECC 402.1, Exception 3.3 is utilized as a result, the efficiencies of all installed mechanical equipment shall be verified by visual inspection.	Prior to final inspection	Approved construction documents, including energy analysis	403.7
IB4	Controls: System controls shall be inspected to verify that each dwelling is provided with individual programmable thermostats and that such controls operate as specified in ECC 403.1. Not less than 20% or one of each control type, whichever is more, shall be inspected.	Prior to final inspection	Approved construction documents, including control system narratives	403.1, 403.1.1
IB5	Duct and piping insulation and duct sealing: Installed duct and piping insulation shall be visually inspected to verify insulation placement and values. Ducts, air handlers, filter boxes and building cavities used as ducts shall be visually inspected for proper sealing.	Prior to closing ceilings and walls and prior to final inspection	Approved construction documents	403.2.1, 403.2.2, 403.3, 403.4; MC Section 603; 1RCNY §5000-01
IB6	Duct leakage testing: When the R values of ECC Table 402.1(2) are used for the design, and ECC 402.1, Exception 3.2 is utilized as a result, the results of the duct leakage tests shall be reviewed for compliance with ECC 403.2.4. Not less than 20% of such ductwork shall be tested.	Prior to closing ceilings and walls and prior to final inspection	Approved construction documents; ANSI/ASHRAE 152, ASTM E1554 Test Method A	403.2.4
IC	**Other**			
IC1	Electrical metering: 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.	Prior to final inspection	Approved construction documents	102.4
IC2	Transformers: Single-phase and three phase dry-type and liquid-filled distribution transformers installed as part of the scope of	Prior to final inspection	Approved construction documents; NEMA TP1	102.6, 805.7

	work (and not by the utility) shall be visually inspected to ensure that the installed transformers are listed and labeled to the referenced standard, or that associated product literature confirms that the transformers meet the referenced standard.			
IC3	Permanent certificate: The installed permanent certificate shall be visually inspected for location, completeness and accuracy.	Prior to final inspection	Approved construction documents	401.3; 1RCNY 5000-01
IC4	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 and for compliance with ECC 102.3.	Prior to sign-off or issuance of Certificate of Occupancy	Approved construction documents	102.3

(2) Commercial buildings. The progress inspections and tests described in Table II shall be performed for buildings regulated by ECC Chapter 8, including ASHRAE 90.1 where applicable.

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

	Inspection/ Test	**Periodic (minimum)**	**Reference Standard (See ECC Chapter 10) 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	As required during foundation work and prior to	Approved construction documents	102.2.1

	walls and/or the perimeter of slab-on-grade floors.	backfill		
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	102.1, 802.2, Tables 802.2; ASHRAE 90.1 – 5.4.1, 5.5, 5.6. 5.8.1
IIA3	Fenestration values and product ratings for U-factors and SHGC values: U-factors and SHGC values of installed fenestration shall be visually inspected for conformance with the U-factors and SHGC values identified in the construction drawings by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables 102.1.3(1), (2) and (3). Where ASHRAE 90.1 is used, visible light transmittance values shall also be verified.	As required during installation	Approved construction documents; NFRC 100, NFRC 200, Tables 102.1.3	102.1.3, Tables 802.2. ASHRAE 90.1 – 5.4.2, 5.5.4, Tables 5.5; 5.6, 5.8.2
IIA4	Fenestration and door assembly product ratings for air leakage: Windows, skylights and sliding or swinging door assemblies, except site-built windows, skylights and/or doors, shall be visually inspected to verify that installed assemblies are listed and labeled by the manufacturer to the referenced standard.	As required during installation	NFRC 400, AAMA/WDMA 101/I.S.2, AAMA/WDMA 101/I.S.2/NAFS-02; ASTM E283	802.3.1, 802.3.2; ASHRAE 90.1 – 5.4.3.1, 5.4.3.2, 5.5.4, 5.6, 5.8.2
IIA5	Fenestration areas: Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final inspection	Approved construction documents	802.2; ASHRAE 90.1 – 5.5.4.1

IIA6	Sealing: Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that they are properly sealed.	As required during construc-tion	Approved construction documents	802.3.3, 802.3.5, 802.3.6, 802.3.7; ASHRAE 90.1 – 5.4.3.1, 5.4.3.3 5.4.3.4
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 against approved plans by visual inspection.	Prior to final inspection	Approved construction documents, including energy analysis	Tables 802.2; 802.2.3
IIA8	Moisture control, vapor retarder: Framed walls, floors and ceilings that are not ventilated to allow moisture to escape, shall be visually inspected for installation of a vapor retarder for moisture control.	As required during construc-tion of envelope and prior to covering vapor barrier	Approved construction documents; ASTM E96 Procedure A	802.1.2
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 inspection	Approved construction documents; ANSI Z21.60 (see also MC 904), ANSI Z21.50	102.5; BC 2111; MC Chapters 7, 9; FGC Chapter 6
IIB2	Dampers integral to the building thermal envelope: Dampers shall be visually inspected to verify that such openings are equipped with motorized dampers that have been tested and listed or labeled. If such dampers are not listed or labeled, they shall be tested and shall meet	As required during installation	Approved construction documents; AMCA 500	802.3.4; ASHRAE 90.1 – 6.4.3.4.4

	the requirements to the satisfaction of the progress inspector.			
IIB3	HVAC and service water heating equipment performance: Equipment efficiencies 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.	Prior to final inspection	Approved construction documents	803.2.2, Tables 803.2.2; 803.3.2, Tables 803.3.2; 804.2, Table 804.2; ASHRAE 90.1 – 6.1, 6.3, 6.4.1, 6.8, Tables 6.8.1; 7.4.2, Table 7.8
IIB4	HVAC system controls and economizers and service hot water 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, Thermostatic; Set point overlap restriction; Off-hour; Shutoff damper; Economizers; Variable air volume fan; Hydronic systems; Heat rejection equipment fan speed; Complex mechanical systems serving multiple zones; Ventilation; Energy recovery systems; Service water heating; Hot water system; Exhaust hoods; Radiant heating systems; and Hot gas bypass systems. Controls with seasonally dependent functionality: Controls whose complete operation cannot be demonstrated due to prevailing	After installation and before final inspection, except that for controls with seasonally dependent functionali-ty, such testing shall be performed before sign-off or issuance of a Final Certificate of Occupancy	Approved construction documents, including control system narratives; ASHRAE Guideline 1: The HVAC Commission-ing Process where applicable	803.2.3, 803.2.4, 803.2.5, 803.2.6, 803.2.7, 803.3.3, 803.3.4, 803.3.5, 803.3.9, 804.3, 804.6; ASHRAE 90.1 – 6.3, 6.4.3, 6.5, 6.7.2.4, 7.4.4, Appen-dix E ; 1RCNY 5000-01(g)(2)

	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. 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. For such supplemental inspections, the Department shall be notified by the progress inspection approved agency of any unresolved deficiencies in the installed work within 180 days of such supplemental inspection.			
IIB5	Duct, plenum and piping insulation and sealing: Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing.	After installation and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA Duct Construction Standards, Metal and Flexible; UL 181A or UL 181B	803.2.8, 803.2.9, 803.3.6, 803.3.7, 804.5; ASHRAE 90.1 – 6.3, 6.4.4.1, 6.4.4.2.1, Tables 6.8.2 and 6.8.3; 7.4.3

IIB6	Air leakage testing for duct systems designed to operate at static pressures in excess of 3 inches w.g. (746 Pa): Representative sections totaling at least 25% of the duct area, per ECC 803.3.6, shall be tested to verify that actual air leakage is below allowable amounts.	After installation and sealing and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual	803.2.8.1.1, 803.3.6; ASHRAE 90.1 – 6.4.4.2.2
IIC Electrical Power and Lighting Systems				
IIC1	Electrical metering: The presence and operation of individual meters or other means of monitoring individual apartments shall be verified by visual inspection for all apartments.	Prior to final inspection	Approved construction documents	102.4; 805.8
IIC2	Transformers: Single-phase and three phase dry-type and liquid-filled distribution transformers shall be visually inspected to ensure that the installed transformers are listed and labeled to the referenced standard, or that associated product literature confirms that the transformers meet the referenced standard.	Prior to final inspection	Approved construction documents; NEMA TP1	102.6, 805.7
IIC3	Electric 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 inspection	Approved construction documents	ASHRAE 90.1 – 10.4.1
IIC4	Lighting controls: Not less than 15% of each type of required lighting controls, including manual interior lighting controls, light-reduction controls, automatic lighting shut-off, guestroom controls, exterior building lighting controls and exterior grounds lighting controls, shall be verified by visual inspection and tested for functionality and proper operation.	Prior to final inspection	Approved construction documents, including control system narratives	805.2; ASHRAE 90.1 – 9.1, 9.4.1; 1RCNY 5000-01(g)(3)

IIC5	Tandem wiring: Tandem wiring shall be tested for functionality.	Prior to final inspection	Approved construction documents	805.3; ASHRAE 90.1 – 9.4.2
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 inspection	Approved construction documents	805.4; ASHRAE 90.1 – 9.4.3
IIC7	Interior lighting power: Installed lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and relevant transformers.	Prior to final inspection	Approved construction documents	805.5; ASHRAE 90.1 – 9.1.3, 9.1.4, 9.2.1, 9.5, 9.6; 1RCNY 5000-01(i)
IIC8	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 inspection	Approved construction documents	805.6; ASHRAE 90.1 – 9.1.1, 9.4.4, 9.4.5
IID Other				
IID1	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 and for compliance with ECC 102.3.	Prior to sign-off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documenta-tion for Building Systems	102.3; 803.3.8.3; ASHRAE 90.1 – 6.7.2.2, 8.7.2

(i) Energy Analysis of Constructed Conditions. In accordance with Section 28-104.3 of the Administrative Code, if constructed work differs from the

last-approved full energy analysis, an as-built energy analysis shall be submitted as a post-approval amendment, listing the actual values used in the building for all applicable Energy Code-regulated items and demonstrating that the building complies with the Energy Code. Such energy analysis shall be signed and sealed by a registered design professional, who shall certify that to the best of his or her knowledge and belief the building as built complies with the Energy Code; where no trade-offs have been used among disciplines, more than one registered design professional may sign and seal the energy analysis. The energy analysis shall be approved by the Department prior to sign-off or issuance of the certificate of occupancy.

§3. Effective date. (a) Section 1 of this rule shall take effect on January 1, 2011.

(b) Section 2 of this rule shall take effect on September 7, 2010, and shall apply to applications for approval of construction documents that are submitted to the Department on and after such date.

STATEMENT OF BASIS AND PURPOSE

This rule is promulgated pursuant to the authority of the Commissioner of Buildings under Sections 643 and 1043 of the New York City Charter.

Article 104 of Title 28 of the Administrative Code establishes the requirement for construction drawings, and the Department's approval of such drawings, as a condition of obtaining a permit for a building construction project. Such construction drawings must be created under the direct supervision of a registered design professional (architect or engineer licensed and registered in New York State), who must sign and seal each drawing as the applicant for the construction permit. Such registered design professional is obligated by the conditions of his or her license and by this article to certify that the construction drawings, to the best of his or her knowledge and belief, comply with the provisions of the New York City Construction Codes or the 1968 building code and of all other applicable laws and rules.

Article 116 of Title 28 allows required inspections during the construction period, other than special inspections, to be performed by approved agencies. Such approved agencies are established in Article 114 of Title 28 and elaborated in 1 RCNY §101-07, which also sets forth the powers, responsibilities and qualifications for progress inspectors. In part, the rule requires that progress inspectors have "relevant experience." The work of progress inspectors is established in Section BC 109.3 and involves the detailed inspection of the built work throughout the construction process to ensure that it complies with the approved construction documents, which, as stated above, must comply with all applicable laws and rules, including the New York City Construction Codes.

In December 2009, the City Council and the Mayor enacted Local Law No. 85 of 2009, which establishes the New York City Energy Conservation Code (the "Energy Code") as Chapter 10 of Title 28 of the Administrative Code. The establishment of the Energy Code is in accordance with Article 11 of the New York State Energy Law, which allows a local jurisdiction to establish its own energy code, provided that it is at least as stringent as the State's energy code. Under Local Law No. 85, the New York City Energy Conservation Code utilizes the technical provisions of the Energy Conservation Construction Code of New York State, but amends the administrative provisions to include all alterations within the applicability of the code; the State's energy code exempts alterations that do not affect at least 50% of any building system or subsystem from its provisions. The New York City Energy Conservation Code goes into effect on July 1, 2010 .

This rule amends 1 RCNY §101-07(c)(3) to clarify the role of the progress inspector in a design and construction project and to describe the relevant experience required for progress inspectors for compliance with the Energy Code.

Progress inspections to ensure compliance with the Energy Code are required by §BC 109.3.5, and progress inspections are described generally in §28-116.2.3 as "inspections required…to be made during the progress of the work" without further specifying what those inspections entail or who is authorized to perform them. The general requirements for such inspectors are set forth in the existing rule; however special expertise is required for compliance with the Energy Code beyond the fundamental requirement for professional licensure and therefore such "relevant experience" in this area, as provided in the existing rule, is detailed in this amendment. In addition, the paragraph of the rule relating to progress inspections, 1 RCNY §101-07(c)(3), is reorganized for greater clarity.

The rule adds 1 RCNY §5000-01 to define the requirements for construction document approval with regard to the Energy Code as set forth in §28-104.7.9 and §BC 106.13. It also establishes the universe of progress inspections required to satisfy BC §109.3.5 and the Energy Code. Depending on the scope of work of a particular project, whether a new building or an alteration, the applicant can select from this list the progress inspection(s) that is (are) applicable to the particular construction project.

Specifically, section 5000-01:

- Codifies current submission requirements for compliance with the Energy Code as they relate to Local Law No. 85 of 2009, which codified the New York City Energy Conservation Code.
- Adds the new submission requirement for progress inspections to be listed and described in the approved construction drawings.
- Describes what the applicant must include for the new submission requirement.
- Provides a new definition for "project", which requires that a building or renovation construction project be addressed as a whole for purposes of compliance with the Energy Code , regardless of how it may be split up for filing purposes. (A project may be filed so that it has more than one job number – e.g., one for the general construction, one for mechanical work, one for plumbing work.)
- Requires electrical drawings to be submitted if required for compliance with the Energy Code. Currently electrical drawings are not submitted for construction drawing approval.
- Allows a professional who is not the applicant of record to prepare some documentation required for compliance with the Energy Code, and describe what such a professional must do to be entered into the Department's records in association with the project.

- Lists the types of progress inspections and define, for each inspection, what the progress inspector is expected to inspect and what the standard is for construction compliance.