



Promulgation Details for 1 RCNY 103-07

This rule became effective on October 13, 2012.

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."

NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of Buildings by Section 28-309.9 of the New York City Administrative Code and 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 103-07 of Subchapter C and Section 102-03 of Subchapters B of Chapter 100 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding energy audits and retro-commissioning and structurally compromised buildings.

This rule was first published on February 4, 2019 and a public hearing thereon was held on March 12, 2019.

Dated: 06/26/19
New York, New York



Melanie E. La Rocca
Commissioner

Statement of Basis and Purpose

The Department of Buildings is amending sections 103-07 and 102-03 of Subchapters C and B, respectively, of Chapter 100 of Title 1 of the Rules of the City of New York.

These amendments:

- Replace the guidelines in the reference section with ANSI-approved standards for procedures required to perform energy audit and retro-commissioning in a uniform manner. These standards detail a baseline process that should be applied to existing buildings. The standards additionally identify the roles and responsibilities of all stakeholders.
- Restrict the approved agency qualifications and registration for the submission of energy efficiency reports to Registered Design Professionals.
- Standardize testing protocols with functional performance testing, reformat testing criteria per base building system type, and clarify current facility requirements and sampling requirements.
- Provide instructions for reporting of buildings on different blocks with shared base building systems and multiple covered buildings that are part of a cooperative corporation, requesting an extension of time to file report, comprehensive reviews, and challenges to violations.
- Correct a reference in section 102-03 to an Administrative Code section that has been changed.

The Department of Buildings' authority for these rules is found in sections 643 and 1043 of the New York City Charter and Article 308 of Chapter 3 of Title 28 of the New York City Administrative Code.

New material is underlined.

[Deleted material is in brackets.]

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

Section 1. Subdivision (a) of section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York is REPEALED and a new subdivision (a) is added to read as follows:

(a) Definitions. As used in this section, the following terms have the following meanings:

ACCEPTABLE ENERGY EFFICIENCY REPORT (EER). An acceptable EER is a technical energy audit and retro-commissioning report filed by an energy auditor and retro-commissioning agent that meets the requirements of the Administrative Code and this section, as determined by the department.

COMMON AREA. Common area is an area that is not considered a tenant area. Common area typically includes but is not limited to non-occupiable spaces such as egress corridors, egress stairwells, elevators, lobbies, public restrooms, janitorial closets, shared amenities, storage, mechanical or electrical rooms containing equipment that is owned, maintained and operated by the building owner.

MAJOR EQUIPMENT, SUB-EQUIPMENT AND COMPONENTS. Major equipment is a base building system listed in Table 1:

Table 1 – Major Equipment

	<u>Group R occupancies</u>	<u>All occupancies other than Group R</u>
<u>Boilers</u>	<u>All boilers with rated input capacity greater than or equal to 300,000 Btu/h</u>	
<u>Chillers</u>	<u>All chillers</u>	<u>All chillers</u>
<u>Cooling towers and dry coolers</u>	<u>All cooling towers and dry coolers</u>	<u>All cooling towers and dry coolers</u>
<u>Air handling units (AHU), fan coil units (FCU), heat recovery units (HRU), heating and ventilation units (H&V), packaged and split air conditioning units</u>	<u>Capacity greater than or equal to 2,500 CFMs</u>	<u>Capacity greater than or equal to 5,000 CFMs</u>
<u>HVAC motors, fans and pumps</u>	<u>Greater than or equal to 2.5HP</u>	<u>Greater than or equal to 5 HP</u>
<u>Heat exchangers</u>	<u>Serving 10,000 square feet or more</u>	
<u>Domestic hot water heaters (Storage and instantaneous)</u>	<u>All water heaters with rated input capacity greater than 155,000 Btu/h</u>	
<u>Domestic water pumps</u>	<u>Greater than or equal to 10 HP</u>	

Sub-equipment and components of the associated major equipment are listed in Table 2:

Table 2 – Sub-Equipment and Components of the Major Equipment

<u>Sub-equipment and components</u>		
<u>Existing cabinets/casing</u>	<u>Valves</u>	<u>Grilles</u>
<u>Terminal and induction units</u>	<u>Actuators</u>	<u>Filters</u>
<u>Access doors</u>	<u>Dampers</u>	<u>Air outlets</u>
<u>Control panels</u>	<u>Chilled or hot water coils</u>	<u>Fans and motors</u>
<u>Controls and sensors</u>	<u>Steam or DX coils</u>	<u>VFDs</u>
<u>Interlocks</u>	<u>Belts</u>	<u>Ductwork</u>
<u>Electrical/mechanical switches</u>	<u>VAV and fan powered boxes</u>	<u>Piping</u>
<u>Operating and modulating pressure controls</u>	<u>Steam traps</u>	

NON-COMMON OWNER AREA. A non-common owner area is an occupiable space, as defined in section 202 of the Building Code, that: (1) is not a non-common tenant area; and (2) is maintained by and accessible to the building owner.

NON-COMMON TENANT AREA. A non-common tenant area is an area of a dwelling unit or other space leased or intended to be leased.

§ 2. Subdivision (b) of section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York is amended to read as follows:

- (b) References. Energy audit: Article 308 of Chapter 3 of Title 28 of the [New York City] Administrative Code [“Article 308”] (Article 308); American Society of Heating, Refrigerating and Air-conditioning Engineers Inc. [“ASHRAE”] Procedures for Commercial Building Energy Audits, 2011 edition] (“ASHRAE”) Standard for Commercial Building Energy Audits – ASHRAE 211-2018 (American National Standards Institute (ANSI) approved/Air Conditioning Contractors of America (ACCA) co-sponsored).

Retro-commissioning: Article 308; National Environmental Balancing Bureau (NEBB) Standard S120-2016 – Technical Retro-Commissioning of Existing Buildings (ANSI approved).

§ 3. Subdivision (c) of section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York is REPEALED and a new subdivision (c) is added to read as follows:

- (c) Energy auditor and retro-commissioning agent qualifications.

- (1) The energy auditor performing or supervising the audit may not be on the staff of the building being audited. The energy auditor must be a registered design professional, and the energy auditor or an individual under the direct supervision of the energy auditor must be one of the following:

- (i) a Certified Energy Manager or Certified Energy Auditor, certified by the Association of Energy Engineers (AEE);
 - (ii) a High-Performance Building Design Professional certified by ASHRAE;
 - (iii) a Building Energy Assessment Professional certified by ASHRAE; or
 - (iv) for audits of multifamily residential buildings only, a Multifamily Building Analyst, certified by the Building Performance Institute.
- (2) The retro-commissioning agent performing or supervising the retro-commissioning may not be on the staff of the building being retro-commissioned. The retro-commissioning agent must be a registered design professional, a certified Refrigerating System Operating Engineer, or a licensed High Pressure Boiler Operating Engineer. In addition, the retro-commissioning agent or an individual under the direct supervision of the retro-commissioning agent must be one of the following:
- (i) a Certified Commissioning Professional certified by the Building Commissioning Association;
 - (ii) a Certified Building Commissioning Professional certified by the AEE;
 - (iii) an Existing Building Commissioning Professional as certified by the AEE;
 - (iv) a Commissioning Process Management Professional certified by ASHRAE;
 - (v) an Accredited Commissioning Process Authority Professional approved by the University of Wisconsin;
 - (vi) a Certified Commissioning Authority certified by the Associated Air Balance Council Commissioning Group;
 - (vii) a Building Commissioning Professional certified by ASHRAE;
 - (viii) a Commissioning Process Professional certified by NEBB;
 - (ix) a Technical Retro-Commissioning Professional certified by NEBB; or
 - (x) a Building Systems Commissioning Professional certified by NEBB.
- (3) Registrations. An energy auditor or a retro-commissioning agent who is currently registered with the department and is not a registered design professional may continue to submit the EER as an approved agent until the expiration of the registration or December 31, 2021, whichever occurs first. No registration shall be renewed once expired. The provisions of sections 28-401.6, 28-401.8 and 28-401.19 of the Administrative Code apply to such registered energy auditors and retro-commissioning agents.

§ 4. Subdivisions (d) and (e) of section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York are amended to read as follows:

- (d) Energy [Audit Procedures] audit procedures. An energy audit must be performed on the base building systems of a covered building prior to filing an [energy efficiency report] EER. The scope of such energy audit must be at a minimum equivalent to the procedures, requirements, and reporting described for a Level 2 [Energy Survey and Analysis in accordance with *Procedures for Commercial Building Energy Audits*, 2011 edition,] energy audit in accordance with ANSI/ASHRAE/ACCA Standard 211-2018 – Standard for Commercial Building Energy Audits, published by [the American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc. (ASHRAE)]. [The building’s operations and maintenance staff must be consulted at the start of and during the energy audit process in order to establish the current facility requirements.]

- (e) Contents of [Energy Audit Report] the energy audit report. An audit report must be prepared for the owner that is at a minimum equivalent to the report prescribed by [ASHRAE *Procedures for Commercial Building Energy Audits*, 2011 edition] ANSI/ASHRAE/ACCA Standard 211-2018, or any subsequent, edition – Standard for Commercial Building Energy Audits, published by ASHRAE, and must include the information required by § 28-308.2 of the Administrative Code. The table of contents of the audit report must include all of the sections provided in the Level 2 energy audit report outline in Informative Annex D of standard 211-2018, or subsequent edition. Such report must be retained by the owner in accordance with subdivision (j) of this section. The energy auditor must certify that the audit satisfies the requirements of § 28-308.2 of the Administrative Code and this [rule] section. The energy audit report and certification form must be uploaded through the web-based Energy Audit template tool.

§ 5. The opening paragraph of Subdivision (f) of Section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York is amended to read as follows:

- (f) Retro-commissioning procedures. The base building system components subject to retro-commissioning as per § 28-308.3 of the Administrative Code must be assessed in accordance with NEBB Standard S120-2016, or any subsequent, edition – Technical Retro-Commissioning of Existing Buildings and § 28-308.3 of the Administrative Code, as applicable to the requirements of this section, including the technical retro-commissioning process, the testing protocols, master list of findings and repairs and deficiencies corrected, [and this section] deliverables and documentation. Deficiencies found in the assessment must be corrected, prior to submission of the EER, as required by this subdivision. [Notwithstanding the particular provisions of this subdivision, where less than ninety percent of components tested in the initial sample set is found to be satisfactory, corrections may be made to all similar system components without further testing. The building’s operations and maintenance staff must be consulted at the start of and during the retro-commissioning process in order to establish the current facility requirements.]

The Current Facility Requirements (CFR) will be the following for all space uses served by a base building system, unless the agent provides acceptable rationale demonstrating otherwise. Acceptable rationale must be documented and can include needs of a space use as defined by owner interviews, tenant leasing requirements, and tenant controlled set points and setbacks. The CFR must be justified by references including ASHRAE fundamentals, heating, ventilation, and

air conditioning (HVAC) systems and equipment, and applications handbooks, ANSI references, Illuminating Engineering Society (IES) lighting handbook, New York City Housing Maintenance Code (HMC), New York City Building Code (BC), approved design drawings and/or manufacturer's guidelines. Acceptable rationale does not include needs as a result of deficient equipment or historic operations.

- Winter indoor space temperatures should be between 68 and 76 degrees F and summer indoor space temperatures should be between 72 and 80 degrees F during occupied periods of time for non-common tenant areas (without individual HVAC controls) and non-common owner areas of the facility.
- Operating steam system pressure (cut-out setting) should not be greater than four psig for low pressure steam heated buildings. For any building requiring higher operating steam pressure, substantial documentation, including design/as-built documents indicating design operating steam pressure shall be submitted to, and accepted by the department.
- Domestic hot water is stored and delivered per the HMC for Group R occupancies and per the New York City Plumbing Code requirements for all other occupancies.
- Minimum outside air requirements are met in areas with mechanical supply ventilation per the design and/or New York City Mechanical Code effective at the time of installation of the major equipment.
- Lighting levels (foot candles) are in accordance with the BC and HMC for all egress lighting, including common laundry rooms, and in accordance with the IES lighting handbook for all other space use types in the common areas and non-common owner areas.
- Daily, weekly, and seasonal operating hours, including occupied and non-occupied hours, of the building and base building systems.
- A description of the current space use of base building areas.
- A description of any changes in space use that impact the energy consumption of the heating, cooling, ventilation, or domestic hot water systems.

Retro-commissioning agent must consider the following to develop, document, and define the CFR:

- Age of facility.
- Interviews with owners, facility manager, and occupants.
- Available design or as-built drawings.
- Lease terms with regard to energy usage.

§ 6. Paragraphs (1) and (2) of subdivision (f) of Section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York are REPEALED and new paragraphs (1), (2), (3), (4) and (5) are added to read as follows:

(1) HVAC and service water equipment.

- (i) Pre-testing verification. An inspection, documented through pre-test verification forms, of all major equipment and its sub-equipment and components located in all common areas, at least 20% of such equipment located in non-common owner areas and at least 10% of such equipment located in accessible non-common tenant areas must be conducted to check for cleanliness and proper operation. Such inspection ensures that the system is able to be tested. Where major equipment, sub-equipment, and components are found to require cleaning, repair or correction for proper operation, correct all deficiencies prior conducting functional performance testing and document the post-correction condition in the retro-commissioning report under issues log.
- (ii) Functional performance testing. Performance verification through functional performance testing for all major equipment and its sub-equipment and components located in the common areas, at least 20% of such equipment located in the non-common owner areas and at least 10% of such equipment located in the non-common tenant areas must be performed during normal operating conditions. Functional performance testing includes but is not limited to all controls, actuation, automation and sequencing functions impacting energy consumption of the major equipment such as control sequence of operation, economizer function, staging and load distribution, automatic reset function and integrated system level testing. The functional performance test process and results must be reported on forms acceptable to the department. Proper function must be determined from field observation and may include interviews with facility staff, trend analysis, or dedicated data loggers. Where equipment requires correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report. Completed functional performance test forms must be included in the retro-commissioning report.
- (iii) Temperature and pressure setpoints and setbacks. All major equipment and its sub-equipment and components located in all common areas, at least 20% of such equipment located in the non-common owner areas and at least 10% of such equipment located in the non-common tenant areas must be tested to verify that such system set points are appropriate to the CFR and setbacks operate during unoccupied periods as stated by the CFR. Where set points and setbacks require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.
- (iv) Sensors. Sensors include the following in Table 3 below, if present and serving major equipment(s).

Table 3 – Critical and Monitoring Sensors Associated with Major Equipment

<u>AHU/FCU/H&V/package and split AC units</u>	<u>Boiler</u>	<u>Cooling tower</u>	<u>Chiller</u>
<u>OA temp</u>	<u>OA temp</u>	<u>OA temp (Dry bulb and wet bulb)</u>	<u>OA temp</u>
<u>Supply and return air temp</u>	<u>Return temp</u>	<u>Inlet water temp</u>	<u>Evap. water temp in</u>
<u>Mixed air temp</u>	<u>Supply temp</u>	<u>Outlet water temp</u>	<u>Evap. water temp out</u>
<u>Supply and return air flow rate</u>	<u>System pressures (Steam Boilers)</u>	<u>Flow rate</u>	<u>Cond water temp in</u>
<u>Static pressure</u>	<u>Indoor zone temp</u>	<u>Humidity</u>	<u>Cond water temp out</u>
<u>Zone temp</u>	-	<u>Supply and return temp</u>	<u>Zone temp and system pressures</u>

- (A) All critical sensors that are part of a control sequence and have direct control of major equipment located in the common area must be tested for proper calibration. Acceptable and allowable tolerances for proper calibration must be supported by a reference acceptable to industry or manufacturer's guidelines. Where sensors require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.
- (B) For monitoring sensors that are not part of a control sequence, a sample set constituting at least 10% of all monitoring sensors within the common area must be tested for proper calibration. Acceptable and allowable tolerances for proper calibration must be supported by a reference acceptable to industry or manufacturer's guidelines. If more than 80% of the sample set is found to be satisfactory, then no further sampling is required for the purposes of the retro-commissioning report. If less than 80% of the sample set is found to be satisfactory, then all monitoring sensors must be tested for proper calibration. Where sensors require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.
- (v) Simultaneous heating and cooling. All major equipment air handling units located in the common areas and at least 20% of the major equipment air handling units in the non-common owner areas must be tested to verify that simultaneous heating and cooling is not occurring, unless intended. Where unintended simultaneous cooling and heating is occurring, the condition must be corrected and post-correction condition must be documented in the retro-commissioning report.
- (vi) Boilers tuned for optimal efficiency. A combustion efficiency test must be conducted for each low pressure major equipment boiler (includes H-stamped domestic hot water heater). Each boiler must be tuned and cleaned to perform as per manufacturer's guidelines for combustion efficiency (%), oxygen (%), carbon dioxide (%), ambient air temperature (degrees F), stack temperature (flue gas temp minus combustion air temp, degrees F), carbon monoxide (ppm), and smoke

number, as applicable. If manufacturer’s guidelines are not available, cleaning/tuning and combustion efficiency testing must be conducted to meet the requirements in Table 4 below at high and low fire rates for all fuel types. Results (Actual print-outs directly obtained from the calibrated combustion analyzer) of the combustion efficiency test must be included in the retro-commissioning report.

Table 4 – Acceptable Range for Combustion Efficiency Test Results

	<u>High fire</u>			<u>Low fire</u>	
	<u>Residential/Commercial gas fired</u>		<u>Commercial oil fired</u>	<u>Commercial gas fired</u>	<u>Commercial oil fired</u>
	<u>Atmospheric and fan assist boilers</u>	<u>Power burners</u>	<u>Power burners</u>	<u>Power burners</u>	<u>Power burners</u>
<u>Oxygen (%)</u>	<u>6% to 9%</u>	<u>3% to 6%</u>	<u>3% to 6%</u>	<u>5% to 8%</u>	<u>6% to 10%</u>
<u>Stack temperature (deg. F)</u>	<u>325 to 450</u>	<u>350 to 550</u>	<u>350 to 500</u>	<u>300 to 380</u>	<u>300 to 400</u>
<u>Carbon monoxide (ppm) air free</u>	<u><50 ppm</u>	<u><100 ppm</u>	<u><100 ppm</u>	<u><100 ppm</u>	<u><100 ppm</u>
<u>Smoke number</u>	<u>=</u>	<u>=</u>	<u>=</u>	<u>Zero or per manufacturer requirements</u>	<u>=</u>

(vii) Manual override remediation. In all cases where the major equipment has the capability of being operated automatically, the retro-commissioning agent must confirm that major equipment is not being manually operated. Where a manual override condition exists, it must be noted as a deficiency to be corrected, and the post-correction condition must be documented in the retro-commissioning report.

(viii) Leaks. Major equipment and its sub-equipment and components in all common areas, at least 20% of such equipment located in non-common owner areas and at least 10% of such equipment located in the accessible non-common tenant areas must be visually checked for water, steam, oil, or air leaks. These checks do not include duct tightness testing. All leaks identified must be repaired, and the post-correction condition must be documented in the retro-commissioning report.

(2) HVAC and service water distribution.

(i) Pipe insulation. All exposed (uninsulated and/or with deteriorated insulation) pipes three inches or greater in diameter, pipe fittings, and associated valves located in the common areas, at least 20% of such equipment located in non-common owner areas and at least 10% of such equipment located in the non-

common tenant areas, containing steam or fluid outside the operating temperature range of 60 degrees F and 105 degrees F must be thermally insulated in accordance with the New York City Energy Conservation Code in effect at the time of installation, and the post-correction condition must be documented in the retro-commissioning report.

Exception: Existing insulation with asbestos containing materials is not required to be removed or replaced for the purposes of the retro-commissioning report. The condition must be noted on the retro-commissioning report and correction of such condition is not required.

(ii) High pressure steam traps. All high pressure steam traps operating above 15 PSI of pressure must be tested using ultrasonic leak detection to verify proper operations or replaced. All steam traps found to be functioning improperly must be replaced, repaired or rebuilt, and the condition must be noted on the retro-commissioning report.

(iii) One-pipe steam distribution.

(A) All one-pipe steam distribution systems serving the major equipment must have steam traveling from the steam header to the end of each main loop vent(s) at an average of less than five minutes. Retro-commissioning agents must conduct the steam and travel time test using temperature data loggers (temperature sensors/thermocouples) that provide an output of timestamps and surface temperature readings. At the beginning of each test, the temperature at the end of each main loop vent must be 140 degrees F or less. At the end of the test, the end of each main loop vent must be 195 degrees F or more.

(B) The average time at which the steam header reaches at least 195 degrees F and the end of each main loop vent(s) reaching at least 195 degrees F must be less than five minutes. A temperature (degrees F) vs. time (minutes) curve to be plotted in 10-second intervals and all data points logged used to plot this curve must be provided in a tabular format in the report. Data points must include time from the start of the boiler/burner until the steam reaches the header and then to the end of all main loops.

(C) The retro-commissioning agent must provide a schematic plan of the steam piping distribution in the common area. This schematic plan should indicate the location of the boiler(s), supply lines, header and each main line vent.

(iv) Two-pipe steam distribution.

(A) The main supply and main return piping surface temperatures for all two-pipe steam distribution systems serving major equipment must have a differential of 30 degrees F or more. The retro-commissioning agent

must conduct the differential temperature test utilizing temperature data loggers (temperature sensors or thermocouples) that provide an output listing timestamps and surface temperature readings. The retro-commissioning agent must provide Pressure vs. Time and Temperature vs. Time plots, as recorded in intervals of 5 minutes. The temperature readings must be recorded using data loggers insulated and located on the main supply/header and main return piping, and on the inlet of a condensate/vacuum tank. This test cannot be performed on systems with master traps or double steam traps; it also cannot be performed on systems with heat exchangers and heat recovery that are used to cool the condensate down. The data loggers must provide readings during two consecutive cycles of the boiler where each cycle (boiler run time) takes at least 30 minutes at the design operating pressure.

(B) In the event that a two-pipe steam distribution system has a differential between the main supply and main return piping surface temperatures of not more than 30 degrees F for any duration of the test specified above, all steam traps in the common areas, at least 20% of steam traps in the non-common owner areas and at least 10% of steam traps in the non-common tenant area, served by the major equipment, must be tested to verify for proper function. If less than 80% of the sample set, for each sample size, is found to be functioning properly, then all respective areas served by the two pipe steam distribution system must be tested to verify the steam traps are functioning properly. All steam traps found to be functioning improperly must be replaced, repaired, rebuilt, or removed and the post-correction condition must be documented in the retro-commissioning report. Steam trap testing must utilize ultrasonic leak detection technology and/or a thermal imaging camera, as necessary to determine the trap condition. A comprehensive steam trap schedule including number, type, location, size (orifice) of traps and test results must be included in the retro-commissioning report. If the work required is so extensive that it would require more time than available to meet the compliance deadline, the condition may be corrected within two years of submitting the retro-commissioning report to the department and must be noted in the report. Documented verification must be submitted on a form provided by the department showing that the differential between the main supply and main return piping surface temperatures is more than 30 degrees F for any duration of the test specified in the differential temperature test described in subparagraph (A), above, after replacement, repair or rebuilding of deficient steam traps.

Exception: If all steam traps in the common areas, at least 20% of steam traps in the non-common owner areas and at least 10% of the steam traps in the non-common tenant areas have been replaced and/or tested and verified as functioning properly, within five years from the date the EER was submitted, and supporting documentation acceptable to the department is provided, then testing of steam traps is not required. Acceptable supporting documentation includes, but is not

limited to, copies of paid invoices for the completed work, steam trap test reports and post-correction findings.

- (v) Air-side distribution. All dampers, fans, actuators and controls associated with air-side distribution serving major equipment must be functionally tested for proper operation as per CFR. Where deficiency is identified, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report. Completed functional performance test forms must be included in the retro-commissioning report.
- (vi) Water-side distribution. All valves on coils, automatic isolation valves at pumps, actuators and controls associated with water-side distribution serving major equipment must be functionally tested for proper operation as per CFR. Where deficiency is identified, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report. Completed functional performance test forms must be included in the retro-commissioning report.
- (vii) Domestic hot water system temperature settings. All storage and delivery hot water temperatures of major equipment hot water heaters must be checked to verify that the water temperature settings are appropriate for the CFR. Where the temperature settings are found to require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.
- (viii) Mechanical ventilation rates. A sample set constituting at least 10% of all mechanical outdoor air intakes, but in no event fewer than three outdoor air intakes, must be measured to verify that the flow rates are appropriate for the CFR. If more than 80% of the sample set is found to be appropriate, then no further sampling is required for the purposes of the retro-commissioning report. If less than 80% of the sample set is found to be appropriate, then all mechanical outdoor air intakes serving base building systems must be measured. Where flow rates require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.

(3) Lighting system.

- (i) Light levels. Lighting levels (foot candles) in all common areas and lighting levels in at least 20% of the non-common owner areas must comply with the CFR. The sample set should include at least 10% of each area of different use. Where the light levels are found to require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.
- (ii) Sensors and controls. All interior lighting systems in the common areas, at least 20% of the interior lighting systems in the non-common owner areas, and all exterior lighting systems must be checked to verify that the lighting sensors and

associated automatic lighting controls are functioning properly. Where lighting sensors and controls are found to require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.

(4) Envelope.

(i) Sealants and weather-stripping. An inspection must be conducted in all common areas, at least 20% of non-common owner areas and at least 10% of non-common tenant areas to confirm that accessible sealants and weather stripping are installed around doors, windows, conduits, piping, joints, and other areas of potential major air infiltration and in good condition. Where any sealant or weather stripping is found to require correction, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.

Exception: Sealants and weather stripping with asbestos containing materials shall not be required to be removed or replaced for the purposes of retro-commissioning. The condition must be noted on the retro-commissioning report and correction of such condition is not required.

(ii) Windows and doors. An inspection must be conducted in common areas to confirm that all windows and doors are in good condition. Where any door or window is not in good condition, the condition must be corrected and the post-correction condition must be documented in the retro-commissioning report.

(5) Training and documentation. On-site documentation in accordance with § 28-308.3(3) of the Administrative Code must be verified and noted on the retro-commissioning report. Training of critical operations and maintenance staff on the energy conservation techniques and preventative maintenance schedules, based on manufacturer’s guidelines or recognized industry standards, for all major equipment and sub-systems must be documented in the retro-commissioning report.

§ 7. Subdivisions (g), (h) and (i) of Section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York are amended to read as follows:

(g) Contents of the retro-commissioning report. In accordance with § 28-308.3.1 of the Administrative Code, the retro-commissioning agent must prepare and certify a retro-commissioning report that satisfies the requirements of § 28-308.3 of the Administrative Code and this rule. In establishing the table of contents, the retro-commissioning agent shall refer to “K. Informative Appendix – Retro-Commissioning Report” of the NEBB Standard S120-2016, or any subsequent, edition – Technical Retro-Commissioning of Existing Buildings as guidelines until a final retro-commissioning report outline is prescribed by the department. Such report must include the model number, serial number, last calibration date and manufacturer recommended calibration frequency for each reference instrument used for functional performance testing. The report must also include photos of deficiencies, adjustments and repairs. All photos must include a timestamp visible on the front of the photo within the report. Calibration certificates and additional photos must be provided, if requested by the department. The retro-commissioning

report must be uploaded through the web-based Energy Audit template tool when submitting to the department. Such report must be retained by the owner in accordance with subdivision (j) of this section.

- (h) Contents of [Energy Efficiency Report] the EER. An [Energy Efficiency Report] EER in accordance with § 28-308.5 of the Administrative Code must be submitted to the department in accordance with § 28-308.4 of the Administrative Code on forms prescribed by the department. The EER must include the Deep Energy Retrofit Plan Analysis tool when submitted to the department. The results of this tool must also be presented to the owner prior submitting to the department.
- (i) Multiple buildings.
 - (1) Multiple buildings on a lot. Two or more buildings on a lot that constitute a covered building in accordance with § 28-308.1 of the Administrative Code are subject to an energy audit and retro-commissioning of base building systems as follows:
 - (i) Multiple buildings on a covered lot that are equipped with base building systems that are wholly separate from each other are subject to the requirements for an EER for each individual building.
 - (ii) Multiple buildings on a covered lot that share base building systems are subject to the requirements for an EER for each grouping of buildings that share base building systems.
 - (2) Multiple buildings on multiple tax lots that share systems. Two or more buildings on more than one tax lot that share base building systems are subject to the requirements for an EER for each grouping of buildings that share base building systems.
 - (3) Buildings on different blocks with shared base building systems. Two or more buildings on separate blocks that constitute a covered building in accordance with § 28-308.1 of the Administrative Code are subject to the requirements for an EER for each grouping of buildings that share base building systems. The due date for the EER will be in the calendar year with a final digit that is the same as the last digit of the block number that is highest or with respect to a city building as defined in § 28-308.1 of the Administrative Code in accordance with the schedule of the Department of Citywide Administrative Services. The owner must notify the department by December 31 of the year in which the earliest covered building is due to comply, out of all covered buildings on different blocks with shared base building system(s), through the form prescribed by the department.
 - (4) Multiple covered buildings under cooperative corporations. A cooperative corporation that owns multiple covered buildings located on different tax block numbers that is required to file an EER for more than one covered building in different calendar years, may consolidate all such EERs into one report, disaggregated by covered building, due no later than the year in which the last EER would be due, which shall be accepted by the department in satisfaction of the requirements of this section for each covered building included in such consolidated report. The owner must notify the department by December

31 of the year in which the earliest covered building is due to comply through the form prescribed by the department.

§ 8. Subdivision (l) of Section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York is amended to read as follows:

- (l) Extension of time to file report.
 - (1) An owner may apply for an extension of time to file an [energy efficiency report] EER if, despite good faith efforts, the owner is unable to complete the required energy audit and retro-commissioning prior to the due date of the report, for reasons other than financial hardship of the building. The application must be on a form provided by the department and must be filed by [October 1] December 31 of the year in which the report is due.
 - (2) An owner may apply for annual extensions of time to file an [energy efficiency report] EER based on the financial hardship of the building. The application must be on a form provided by the department and must be filed by October 1 of the year in which the report is due and by [October 1] December 31 of every subsequent year for which an extension is requested.

§ 9. Subdivisions (m) and (n) of Section 103-07 of Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York are relettered subdivisions (n) and (o) and amended and a new subdivision (m) is added to read as follows:

- (m) EER under comprehensive review. A violation will be issued if an EER submission that is chosen for comprehensive review fails to resolve all issued objections after three revisions, or two years from the date of issuance of the first Notice of Objections, whichever occurs first. Such EER submission shall be subject to a penalty for failure to submit an acceptable EER in accordance with subdivision (n) of this section.
- (n) Violation and penalty. Failure to submit an acceptable EER is a Major (Class 2) violation which may result in a penalty of \$3,000 in the first year and \$5,000 for each additional year until the EER is submitted to the department. The department will not accept any outstanding EER submission if outstanding penalties are not paid in full.
- (o) Challenge to violations.
 - (1) An owner may challenge a violation issued pursuant to this section by providing:
 - (i) proof from the Department of Finance that the building in question is not a “covered building” as defined in section 28-308.1 of the Administrative Code; or
 - (ii) proof of early compliance with the filing requirements pursuant to section 28-308.7 of the Administrative Code; or

[(xi)] (iii) proof that the building [is less than ten years old at the start of its first assigned calendar year] is a new building (NB) with a first temporary certificate of occupancy less than ten years old at the time the building was due to comply; or

[(xii)] (iv) proof that the [base building systems underwent substantial rehabilitation within the preceding ten years] application to defer filing an EER was approved; or

[(xiii)] (v) proof that the owner was granted an extension of time to file the report.

- (2) Such challenge must be made in writing on a form provided by the [Department] department within thirty days from the postmark date of the violation served by the [Department] department.

§ 10. The opening paragraph of Subdivision (d) and subdivision (f) of Section 102-03 of Subchapter B of Chapter 100 of Title 1 of the Rules of the City of New York are amended to read as follows:

- (d) Report. The registered design professional must sign, seal, and submit to the department the report of the inspection required by section [28-216.12.1] 28-217.1 of the Administrative Code and subdivision b of this section. The registered design professional must also submit a filing fee as specified in 1 RCNY § 101-03, and must send a copy of the report to the owner. The report must include, but need not be limited to, the following information:
- (f) Civil penalties. In addition to any other penalties authorized by law, failure to file a report pursuant to the requirements of section [28-216.12.1] 28-217.1 and this section will result in a civil penalty of \$3,000 for each violation of such section, payable to the department.


§ 11. This rule shall take effect 30 days after its publication; provided, however, that the amendments made by sections one, two, and four through nine shall take effect on January 1, 2020.

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 103-07 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding the qualifications for energy auditors and retro-commissioning agents.

This rule was first published on August 17, 2017 and a public hearing thereon was held on September 29, 2017.

Dated: 10.4.17
New York, New York



Rick D. Chandler, P.E.
Commissioner

Statement of Basis and Purpose

The Department of Buildings (DOB) is amending section 103-07 of Title 1 of the Rules of the City of New York relating to the qualifications for energy auditors and retro-commissioning agents.

These amendments:

- Remove the New York State Energy Research and Development Authority- (NYSERDA) approved Flex Tech consultant from the list of qualifications for an energy auditor. This certification was intended for early compliance pursuant to the Administrative Code. Auditors who don't meet any of the other qualifications are using the Flex Tech consultant listing beyond the intended early compliance timeframe. In addition, the NYSERDA Flex Tech Consultant certification is firm-wide, so there is no way to be sure that the actual individual(s) performing the work are certified.
- Add the Certified Commissioning Authority (CxA) Certification to the qualifications of retro-commissioning agents. Adding this qualification will increase the number of individuals who can provide retro-commissioning services. Additionally, the CxA has also received American National Standards Institute (ANSI) accreditation and Department of Energy Better Buildings recognition.
- Add the Building Commissioning Professional (BCxP) certification, which the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is now granting as it phases out the Commissioning Process Management Professional (CPMP) certification over the next three years.

The Department of Buildings' authority for these rules is found in sections 643 and 1043 of the New York City Charter and Article 308 of Chapter 3 of Title 28 of the New York City Administrative Code.

New material is underlined.

[Deleted material is in brackets.]

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

Section 1. Subparagraph (i) of paragraph (1) of subdivision (c) of section 103-07 of Title 1 of the Rules of the City of New York is amended to read as follows:

- (i) The energy auditor must be a registered design professional, and the energy auditor or an individual under the direct supervision of the energy auditor must be one of the following:

[(A) a New York State Energy Research and Development Authority- (NYSERDA) approved Flex Tech consultant;]

[(B)] (A) a Certified Energy Manager (CEM) or Certified Energy Auditor (CEA), certified by the Association of Energy Engineers (AEE);

[(C)] (B) a High-Performance Building Design Professional (HPBD) certified by ASHRAE;

[(D)] (C) a Building Energy Assessment Professional (BEAP) certified by ASHRAE; or

[(E)] (D) for audits of multifamily residential buildings only, a Multifamily Building Analyst (MFBA), certified by the Building Performance Institute (BPI).

§ 2. Subparagraphs (i) and (ii) of paragraph (2) of subdivision (c) of section 103-07 of Title 1 of the Rules of the City of New York are amended to read as follows:

- (i) The retro-commissioning agent must be a registered design professional, a certified Refrigerating System Operating Engineer, or a licensed High Pressure Boiler Operating Engineer. In addition, the retro-commissioning agent or an individual under the direct supervision of the retro-

commissioning agent must be one of the following:

- (A) a Certified Commissioning Professional (CCP) certified by the Building Commissioning Association (BCA);
 - (B) a Certified Building Commissioning Professional (CBCP) certified by the AEE;
 - (C) an Existing Building Commissioning Professional (EBCP) as certified by the AEE;
 - (D) a Commissioning Process Management Professional (CPMP) certified by ASHRAE; [or]
 - (E) an Accredited Commissioning Process Authority Professional (ACPAP) approved by the University of Wisconsin;
 - (F) a Certified Commissioning Authority (CxA) certified by the Associated Air Balance Council (AABC) Commissioning Group (ACG); or
 - (G) a Building Commissioning Professional (BCxP) certified by ASHRAE.
- (ii) The retro-commissioning agent performing or supervising the retro-commissioning must be an individual registered with the department and must be one of the following:
- (A) a Certified Commissioning Professional (CCP) certified by the Building Commissioning Association (BCA);
 - (B) a Certified Building Commissioning Professional (CBCP) certified by the AEE;
 - (C) an Existing Building Commissioning Professional (EBCP) as certified by the AEE; [or]

- (D) a Commissioning Process Management Professional (CPMP) certified by ASHRAE;
- (E) a Certified Commissioning Authority (CxA) certified by the AABC Commissioning Group (ACG); or
- (F) a Building Commissioning Professional (BCxP) certified by ASHRAE.

This rule has an effective date of 10-13-12.

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 addition of Section 103-07 to Subchapter C and the amendment of subdivision (j) of section 102-01 of subchapter B of Chapter 100 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding requirements for audits and retrocommissioning.

This rule was first published on February 17, 2012 and a public hearing thereon was held on March 23, 2012.

Dated: 9/5/12
New York, New York



Robert D. LiMandri
Commissioner

Statement of Basis and Purpose

The following rule amendments are proposed pursuant to the authority of the Commissioner of Buildings under Sections 643 and 1043(a) of the New York City Charter.

On December 28, 2009, the Mayor signed local law 87 requiring the owners of covered buildings, as defined in the law, including city-owned buildings, to perform energy audits and retrocommissioning and file energy efficiency reports with the department.

The law also requires the department to specify the information to be contained in the reports. The proposed rule sets out procedures for energy audits, retrocommissioning, and for filing energy efficiency reports. The proposed rule also establishes a penalty for failure to file an energy efficiency report, classifies such failure to file as a class 2 violation, and provides a process to challenge the penalty.

The proposed rule sets out qualifications for energy auditors and retrocommissioning agents along with registration requirements for those individuals who are not registered design professionals.

Section 1. Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York is amended by adding a new section 103-07 to read as follows:

§103-07 Energy audits and retro-commissioning of base building systems

(a) Purpose. This section sets forth the basic requirements for performing energy audits and retro-commissioning on certain buildings 50,000 square feet or more in floor area and submitting the associated Energy Efficiency

Report (“EER”) in accordance with article 308 of chapter 3 of title 28 of the administrative code, and establishes violations for failing to submit an EER.

(b) References. Article 308 of Chapter 3 of Title 28 of the New York City Administrative Code (“Article 308”); American Society of Heating, Refrigerating and Air-conditioning Engineers Inc. (“ASHRAE”) Procedures for Commercial Building Energy Audits, 2011 edition.

(c) Approved agency qualifications. Individuals with relevant experience are deemed approved agencies pursuant to this section for the purpose of conducting energy audits and retro-commissioning of base building systems.

(1) Energy auditor qualifications. The energy auditor performing or supervising the audit may not be on the staff of the building being audited and must meet the qualifications of either subparagraph (i) or (ii).

(i) The energy auditor must be a registered design professional, and the energy auditor or an individual under the direct supervision of the energy auditor must be one of the following:

(A) a New York State Energy Research and Development Authority- (NYSERDA) approved Flex Tech consultant;

(B) a Certified Energy Manager (CEM) or Certified Energy Auditor (CEA), certified by the Association of Energy Engineers (AEE);

- (C) a High-Performance Building Design Professional (HPBD) certified by ASHRAE;
- (D) a Building Energy Assessment Professional (BEAP) certified by ASHRAE; or
- (E) for audits of multifamily residential buildings only, a Multifamily Building Analyst (MFBA), certified by the Building Performance Institute (BPI).

(ii) The energy auditor must be an individual registered with the department and must be one of the following:

- (A) a Certified Energy Manager (CEM) or Certified Energy Auditor (CEA), certified by the Association of Energy Engineers (AEE);
- (B) a High-Performance Building Design Professional (HPBD) certified by ASHRAE;
- (C) a Building Energy Assessment Professional (BEAP) certified by ASHRAE; or
- (D) for audits of multifamily residential buildings only, a Multifamily Building Analyst (MFBA), certified by the Building Performance Institute (BPI).

(2) **Retro-commissioning agent qualifications.** The retro-commissioning agent performing or supervising the retro-commissioning may not be on the staff of the building being retro-commissioned and must meet the qualifications of either subparagraph (i) or (ii).

(i) The retro-commissioning agent must be a registered design professional, a certified Refrigerating System Operating

Engineer, or a licensed High Pressure Boiler Operating Engineer. In addition, the retro-commissioning agent or an individual under the direct supervision of the retro-commissioning agent must be one of the following:

- (A) a Certified Commissioning Professional (CCP) certified by the Building Commissioning Association (BCA);
- (B) a Certified Building Commissioning Professional (CBCP) certified by the AEE;
- (C) an Existing Building Commissioning Professional (EBCP) as certified by the AEE;
- (D) a Commissioning Process Management Professional (CPMP) certified by ASHRAE; or
- (E) an Accredited Commissioning Process Authority Professional (ACPAP) approved by the University of Wisconsin.

(ii) The retro-commissioning agent performing or supervising the retro-commissioning must be an individual registered with the department and must be one of the following:

- (A) a Certified Commissioning Professional (CCP) certified by the Building Commissioning Association (BCA);
- (B) a Certified Building Commissioning Professional (CBCP) certified by the AEE;
- (C) an Existing Building Commissioning Professional (EBCP) as certified by the AEE; or
- (D) a Commissioning Process Management Professional (CPMP) certified by ASHRAE.

(3) Registration.

- (i) General. An energy auditor or a retro-commissioning agent who is not a registered design professional must register with the department in accordance with the provisions of this paragraph. No such energy auditor or retro-commissioning agent may perform audits or retro-commissioning without a current registration.
- (ii) Form and manner of registration. An application for registration must be submitted in a form and manner determined by the commissioner, including electronically, and the applicant must provide such information as the commissioner may require.
- (iii) Certifications. All energy auditors or retro-commissioning agents who register with the department must obtain and maintain a current certification from one of the entities listed in subparagraph (ii) of paragraph (1) or subparagraph (ii) of paragraph (2) of this subdivision, as applicable. The certification must be presented to the department upon request.
- (iv) Registration term. The term of an initial registration is three (3) years, beginning on the applicant's birthday following the date of registration, and may be renewed for additional three- (3) year periods after such initial registration.
- (v) Registration and renewal fees. Fees will be those set forth in section 101-03 of these rules.
- (vi) Renewals. A renewal application must be submitted between sixty (60) and ninety (90) days prior to the expiration date of the registration and must be accompanied by proof that the auditor or agent has, during the one (1) year period immediately preceding renewal, maintained a current certification as set forth in this rule.

(vii) Other applicable provisions. The provisions of sections 28-401.6, 28-401.8 and 28-401.19 of the Administrative Code shall apply to energy auditors and retro-commissioning agents registered pursuant to this paragraph.

(d) Energy Audit Procedures. An energy audit must be performed on the base building systems of a covered building prior to filing an energy efficiency report. The scope of such energy audit must be at a minimum equivalent to the procedures described for a Level 2 Energy Survey and Analysis in accordance with *Procedures for Commercial Building Energy Audits*, 2011 edition, published by the American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc. (ASHRAE). The building's operations and maintenance staff must be consulted at the start of and during the energy audit process in order to establish the current facility requirements.

(e) Contents of Energy Audit Report. An audit report must be prepared for the owner that is at a minimum equivalent to the report prescribed by *ASHRAE Procedures for Commercial Building Energy Audits*, 2011 edition, and must include the information required by §28-308.2 of the Administrative Code. Such report must be retained by the owner in accordance with subdivision (j) of this section. The energy auditor must certify that the audit satisfies the requirements of §28-308.2 of the Administrative Code and this rule.

(f) Retro-commissioning procedures. The base building system components subject to retro-commissioning as per §28-308.3 of the Administrative Code must be assessed in accordance with §28-308.3 of the Administrative Code, including the testing protocols, master list of findings and repairs and deficiencies corrected, and this section. Deficiencies found in the assessment must be corrected as required by this subdivision. Notwithstanding the particular provisions of this subdivision, where less than ninety percent of components tested in the

initial sample set is found to be satisfactory, corrections may be made to all similar system components without further testing. The building's operations and maintenance staff must be consulted at the start of and during the retro-commissioning process in order to establish the current facility requirements.

(1) Operating protocols, calibration, and sequencing.

(i) Heating, ventilation, and air conditioning (HVAC) system temperature and humidity set points and setbacks. All major system components, such as chillers, boilers, cooling towers, air handlers, or pumps, must be tested to verify that such system set points and setbacks are appropriate to the current facility requirements. Where set points and setbacks require correction, the condition must be corrected and noted on the retro-commissioning report.

(ii) HVAC sensors.

(A) All critical sensors that are part of a control sequence and have direct control of a major piece of equipment such as a chiller, boiler, pump, or air handling unit of capacity greater than 5,000 cubic feet per minute must be tested for proper calibration. Where sensors require correction, the condition must be corrected and noted on the retro-commissioning report.

(B) For monitoring sensors that measure air flow or temperature but are not part of a control sequence, a sample set constituting ten percent of all monitoring sensors, but in no event fewer than ten individual

sensors, must be tested for proper calibration. If more than ninety percent of the sample set is found to be satisfactory, then no further sampling is required for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be satisfactory, then all monitoring sensors serving base building systems must be tested for proper calibration. Where sensors require correction, the condition must be corrected and noted on the retro-commissioning report.

- (iii) **HVAC controls.** All control sequences and critical controls that are part of a control sequence of a major piece of equipment such as a chiller, boiler, pump, or air handling unit of capacity greater than 5,000 cubic feet per minute must be checked for proper function. Proper function may be determined from interviews with facility staff, through trend analysis, field observation or dedicated data loggers. Where controls require correction, the condition must be corrected and noted on the retro-commissioning report.

- (iv) **Load distribution.** Fans, boilers, and pumps that are designed to run in parallel on major systems greater than ten horsepower must be tested for proper load distribution across the individual components. Where load distributions require correction, the condition must be corrected and noted on the retro-commissioning report.

- (v) **Ventilation rates.** A sample set constituting ten percent of all outdoor air intakes, but in no event fewer than three outdoor air intakes, must be measured to verify that the flow

rates are appropriate for the current facility requirements. If more than ninety percent of the sample set is found to be appropriate, then no further sampling is required for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be appropriate, then all outdoor air intakes serving base building systems must be measured. Where flow rates require correction, the condition must be corrected and noted on the retro-commissioning report.

(vi) **System automatic reset functions.** For each piece of major equipment, such as chillers, boilers, cooling towers, air handlers, or pumps, at least one energy-related reset function based on temperature or pressure must be tested to verify that the reset function is functioning properly. Where the reset function requires correction, the condition must be corrected and noted on the retro-commissioning report.

(vii) **Adjustments to oversized or undersized equipment.** Only major equipment, such as chillers, boilers, cooling towers, air handlers, or pumps, serving base building systems must be required to be adjusted to perform as efficiently as possible for the current facility requirements. Where the equipment requires correction, the condition must be corrected and noted on the retro-commissioning report.

(viii) **Simultaneous cooling and heating.** A sample set constituting ten percent of the HVAC system air handling units must be tested to verify that simultaneous heating and cooling is not occurring, unless intended. If the entirety of the sample set is found to be without unintended simultaneous

heating and cooling, then no further sampling is required for the purposes of the retro-commissioning report. If any portion of the sample set is found to have unintended simultaneous heating and cooling, then all base building air handling units must be tested for unintended simultaneous heating and cooling. Where unintended simultaneous cooling and heating is occurring, the condition must be corrected and noted on the retro-commissioning report.

(ix) **HVAC System Economizer controls.** The economizer controls serving all major air handling units with a minimum air circulation capacity of 5,000 cubic feet per minute must be tested for proper functionality through trends or functional testing. Where the economizer controls are found to require correction, the condition must be corrected and noted on the retro-commissioning report.

(x) **HVAC distribution balancing.** All major systems that include chillers, boilers, cooling towers, air handlers, or pumps, must be tested for proper balance for current facility requirements. A major system as used in this subparagraph means a system that serves more than 10,000 square feet. If the system is found to be out of balance, the condition must be corrected and noted on the retro-commissioning report. System balancing may only be performed by an individual certified in the testing and balancing of HVAC systems by the National Environmental Balancing Bureau (NEBB), the Testing, Adjusting and Balancing Bureau (TABB), or the Associated Air Balance Council (AABC).

Exceptions:

1. if the HVAC distribution has been tested and balanced within the twelve months prior to the reporting date of the retro-commissioning report, then the records of such testing and balancing must be included in the retro-commissioning report and no further testing and balancing will be required.
2. if the HVAC distribution has been tested and balanced within the sixty months prior to the reporting date of the retro-commissioning report, then no further testing and balancing is required, provided that all of the following conditions are satisfied:
 - 2.1. Space configurations have not been altered to affect the HVAC system since the prior testing and balancing; and
 - 2.2. no new equipment has been installed and no existing equipment has been removed during the sixty months since the prior testing and balancing; and
 - 2.3. if the major systems are controlled by a Building Management System (BMS), the BMS is monitoring or controlling all relevant equipment; and
 - 2.4. if the system is controlled by a BMS, more than ninety percent of the remote sensors, control valves, and control dampers are monitored or controlled by the BMS; and
 - 2.5. no piece of equipment is under manual control; and

2.6. fewer than ten percent of the diffusers in the system require replacement; and

2.7. if the system utilizes a Variable Air Volume (VAV) system, fewer than ten percent of the VAV terminal units are under manual control; and

2.8. if the system utilizes economizers, all economizers and economizer controls are fully functioning; and

2.9. the system supply air and water temperatures satisfy the current facility requirements.

3. If an HVAC system is out of balance but corrective work would be so extensive that it would require a work permit from the department, the condition need not be corrected in connection with the retro-commissioning but may be recommended for examination in connection with the energy audit.

(xi) **Light levels.** A sample set constituting ten percent of the area served by base building lighting systems must be tested to verify that the lighting levels are appropriate for the current facility requirements. The sample set should include areas of different uses. If more than ninety percent of the sample set is found to be within fifteen percent of current facility required lighting levels for a given area, then no further sampling is required for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be within fifteen percent of current facility required lighting levels, then all areas served by the base building lighting system must be tested. Where the

light levels are found to require correction, the condition must be corrected and noted on the retro-commissioning report.

(xii) **Lighting sensors and controls.** A sample set constituting ten percent of the area served by base building lighting systems must be checked to verify that the lighting sensors and controls are functioning properly. The sample set should include areas of different uses. If more than ninety percent of the sample set is found to be served by properly functioning sensors and controls, then no further sampling is required for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be served by deficient sensors and controls, then all areas served by the base building lighting system must be checked to verify that the lighting sensors and controls are functioning properly. Where lighting sensors and controls are found to require correction, the condition must be corrected and noted on the retro-commissioning report.

(xiii) **Domestic hot water heater temperature settings.** All major hot water heaters serving base building systems must be visually checked to verify that the temperature settings are accurate and are appropriate for the current facility requirements. Where a given base building system is served by multiple domestic hot water heaters, a sample set constituting ten percent of such heaters, but in no event fewer than three domestic hot water heaters, must be visually checked to verify that the temperature settings are appropriate. If more than ninety percent of the sample set is found to be appropriate, then no further sampling is required

for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be satisfactory, then all domestic hot water heaters must be visually checked to verify that the temperature settings are appropriate. Where the temperature settings are found to require correction, the condition must be corrected and noted on the retro-commissioning report.

(xiv) **Water pumps.** All water pumps greater than ten horsepower, excluding fire pumps, must be tested to verify that the devices are functioning to meet the current facility requirements. Where a pump is found to require correction, the condition must be corrected and noted on the retro-commissioning report.

(xv) **Water leaks.**

(A) All boilers and roof tanks must be visually checked to verify that they are not leaking water.

(B) For water distribution lines and makeup water lines including steam distribution, a sample set constituting ten percent of the areas where such lines are exposed must be visually checked to verify that no leaks are present. If the entirety of the sample set is found to be without water leaks, then no further sampling is required for the purposes of the retro-commissioning report. If any portion of the sample set is found to be leaking, then all areas where such water lines are exposed must be visually checked.

(C) For plumbing fixtures, such as faucets, toilets, and showerheads, served by base building systems, a sample set constituting ten percent of the fixtures must be visually checked to verify that they are without water leaks. If the entirety of the sample set is found to be without water leaks, then no further sampling is required for the purposes of the retro-commissioning report. If any portion of the sample set is found to be leaking, then all fixtures must be visually checked. All system water leaks identified must be repaired, and the condition must be noted on the retro-commissioning report.

(2) **Cleaning and repair.**

(i) **HVAC equipment.** A visual inspection of all accessible HVAC equipment, including vents, ducts, coils, valves, and soot bins must be visually checked for cleanliness where required for proper operation. If within the scope of the visual inspection the equipment is found to require cleaning, then that equipment must be cleaned, and the condition must be noted on the retro-commissioning report.

(ii) **Filter cleaning and replacement.** A sample set constituting ten percent of filters must be visually checked to verify cleanliness and tested to confirm that the filter is within the manufacturer's recommended pressure drop differential. The retro-commissioning agent must confirm with facility maintenance staff that a replacement protocol is in place for the replacement of filters according to the pressure drop differential or at least as frequently as the manufacturer's

recommendation. Where such protocol is not in place, the lack of protocol must be noted as a deficiency to be corrected, and a satisfactory protocol must be developed in order to correct such deficiency and noted on the retro-commissioning report.

- (iii) **Light fixture cleanliness.** A sample set constituting ten percent of the area served by base building lighting systems must be visually checked to verify that light fixtures serving such areas are clean. If more than ninety percent of the sample set is found to be clean, then no further sampling is required for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be clean, then all areas served by the base building lighting system must be visually checked to verify that the lighting fixtures are clean. Lighting fixtures requiring cleaning must be cleaned and the condition must be noted on the retro-commissioning report.

Exception: Cleaning of lighting fixtures throughout a building for the purposes of retro-commissioning is not required where there is regular maintenance of fixtures and the condition of fixtures is such that gains in energy efficiency from extensive cleaning would be minimal.

- (iv) **Operating conditions of motors, fans and pumps.** A visual inspection of all motors, fans, or pumps, 5 horsepower and greater, and associated belts, pulleys, and bearings must be performed to determine that such components are in good operating condition. Where any motor, fan, or pump is found to require correction, the condition must be corrected and noted on the retro-commissioning report.

(v) Steam traps.

(A) The retro-commissioning agent must confirm with facility maintenance staff that a protocol is in place for the testing of steam traps and replacement of non-functional steam traps. Where such protocol is not in place, the lack of protocol must be noted as a deficiency to be corrected. A satisfactory protocol must be developed in order to correct such deficiency and noted on the retro-commissioning report.

(B) A sample set constituting ten percent of all steam traps in areas served by base building system must be tested to verify operation. If more than ninety percent of the sample set is found to be functioning properly, then no further sampling is required for the purposes of the retro-commissioning report. If less than ninety percent of the sample set is found to be functioning properly, then all areas served by the base building steam system must be tested to verify that the steam traps are operational. All steam traps found to be functioning improperly must be replaced, repaired or rebuilt, and the condition must be noted on the retro-commissioning report.

(vi) **Manual override remediation.** The retro-commissioning agent must confirm with facility maintenance staff that a protocol for the remediation of the issues causing manual overrides has been developed. Where such protocol is not in place, the lack of protocol must be noted as a deficiency

to be corrected, and a satisfactory protocol must be developed in order to correct such deficiency, and the condition must be noted on the retro-commissioning report.

- (vii) **Boilers tuned for optimal efficiency.** A combustion efficiency test must be conducted for each boiler serving a base building system, and the boiler must be tuned and cleaned to perform at optimal efficiency for the current facility requirements.

However, if the boiler has been tested and tuned within the twelve months prior to the reporting date of the retro-commissioning report, then the records of such tuning must be included in the retro-commissioning report, and no further testing and tuning will be required.

- (viii) **Pipe insulation.** All exposed hot and chilled water and steam pipes three inches in diameter and greater and pipe fittings must be visually checked for insulation. Where any such pipes are found not to be insulated, they must be insulated in accordance with the *New York City Energy Conservation Code* and noted on the retro-commissioning report.

Exception: Insulation with asbestos. Existing insulation with asbestos containing materials found to be in need of replacement or repair shall not be required to be removed or replaced for the purposes of the retro-commissioning report. The condition must be noted on the retro-commissioning report and correction of such condition is not required.

(ix) **Sealants and weather stripping.** A visual inspection must be conducted in a sample set constituting ten percent of all accessible locations to confirm that sealants and weather stripping are installed and in good condition. If any portion of the sample set is found to require correction, then all accessible locations must be visually inspected. Where any sealant or weather stripping is found to require correction, the condition must be corrected and noted on the retro-commissioning report.

Exception: Sealants and weather stripping with asbestos. Sealants and weather stripping with asbestos containing materials shall not be required to be removed or replaced for the purposes of the retro-commissioning report. The condition must be noted on the retro-commissioning report and correction of such condition is not required.

(x) **Training and documentation.** On-site documentation in accordance with §28-308.3(3) of the Administrative Code must be verified and noted on the retro-commissioning report. Verification of training of critical operations and maintenance staff must be noted on the retro-commissioning report.

(g) **Contents of retro-commissioning report.** In accordance with §28-308.3.1 of the Administrative Code, the retro-commissioning agent must prepare and certify a retro-commissioning report that satisfies the requirements of §28-308.3 of the Administrative Code and this rule. Such report must be retained by the owner in accordance with subdivision (j) of this section.

(h) Contents of Energy Efficiency Report. An Energy Efficiency Report in accordance with §28-308.5 of the Administrative Code must be submitted to the department in accordance with §28-308.4 of the Administrative Code on forms prescribed by the department.

(i) Multiple buildings.

(1) Multiple buildings on a lot. Two or more buildings on a lot that constitute a covered building in accordance with §28-308.1 of the Administrative Code are subject to an energy audit and retro-commissioning of base building systems as follows:

(i) Multiple buildings on a covered lot that are equipped with base building systems that are wholly separate from each other are subject to the requirements for an EER for each individual building.

(ii) Multiple buildings on a covered lot that share base building systems are subject to the requirements for an EER for each grouping of buildings that share base building systems.

(2) Multiple buildings on multiple tax lots that share systems. Two or more buildings on more than one tax lot that share base building systems are subject to the requirements for an EER for each grouping of buildings that share base building systems.

(3) Buildings on different blocks with shared base building systems. Two or more buildings on separate blocks that constitute a covered building in accordance with §28-308.1 of the Administrative Code are subject to the requirements for an EER for each grouping of buildings that share base building systems. The due date for the EER will be in the calendar year with a final digit

that is the same as the last digit of the block number that is highest or with respect to a city building as defined in §28-308.1 of the Administrative Code in accordance with the schedule of the Department of Citywide Administrative Services.

(j) Record retention. Owners of covered buildings as defined in § 28-308.1 of the Administrative Code must maintain the Energy Audit Report required by §28-308.2.1 of the Administrative Code and the Retro-commissioning Report required by §28-308.3.1 of the Administrative Code as proof of energy audits and retro-commissioning as required in Article 308. Such records must be retained for eleven years from the required submission date and must be made available to the department upon request.

(k) Fees. Owners of covered buildings must pay a filing fee as provided in §101-03 of these rules.

(l) Extension of time to file report.

(1) An owner may apply for an extension of time to file an energy efficiency report if, despite good faith efforts, the owner is unable to complete the required energy audit and retro-commissioning prior to the due date of the report, for reasons other than financial hardship of the building. The application must be on a form provided by the department and must be filed by October 1 of the year in which the report is due.

(2) An owner may apply for annual extensions of time to file an energy efficiency report based on the financial hardship of the building. The application must be on a form provided by the department and must be filed by October 1 of the year in which the report is due and by October 1 of every subsequent year for which an extension is requested.

(m) Violation and penalty. Failure to submit an EER is a Major (Class 2) violation which may result in a penalty of \$3,000 in the first year and \$5,000 for each additional year until the EER is submitted to the department. The department will not accept any outstanding EER submission if outstanding penalties are not paid in full.

(n) Challenge to violations.

(1) An owner may challenge a violation issued pursuant to this section by providing:

(i) proof from the Department of Finance that the building in question is not a “covered building” as defined in section 28-308.1 of the Administrative Code; or

(ii) proof of early compliance with the filing requirements pursuant to section 28-308.7 of the Administrative Code; or

(iii) proof that the building is less than ten years old at the start of its first assigned calendar year; or

(iv) proof that the base building systems underwent substantial rehabilitation within the preceding ten years; or

(v) proof that the owner was granted an extension of time to file the report.

(2) Such challenge must be made in writing on a form provided by the Department within thirty days from the postmark date of the violation served by the Department.

§2. Subdivision (j) of section 102-01 of subchapter B of chapter 100 of Title 1 of the Rules of the City of New York is amended by adding, in numerical order, a new entry relating to Section 28-308.4 of the New York City Administrative Code as follows:

Section of Law	Classification	Violation Description
<u>28-308.4</u>	<u>Class 2</u>	<u>Failure to file an energy efficiency report in accordance with section 28-308.4 or 28-308.7</u>