

## Prescriptive Measures Pathway for Tenant in Place Rehabs Following the 2020 NYC Overlay

Buildings undergoing a **rehab with tenants in place** are permitted to use this Prescriptive Path Option for Criterion 5.1b Building Performance Standard. For these buildings, neither the ERI Option, ASHRAE Option, nor compartmentalization and insulation grading described in Criterion 5.1b is required. Instead, all of the below must be implemented.

1. **Confirm that building's tenants will remain in place during rehab** (prior to closing, a letter from the applicable agency should be provided noting that this is not a tenant-relocation project, and that no dwelling unit will be out of service for 30 or more consecutive days). Implement these prescriptive measures in full and submit verification documentation demonstrating compliance.
2. **Project must retain a commissioning agent as defined under IECC 2015 C408, an HCO org delegate, or a relevant licensed professional** to (1) at PreBuild, verify that all requirements outlined in this document are included in the project scope and (2) at PostBuild submit a final commissioning/quality installation verification report that includes:
  - **For HVAC and DHW systems repaired or installed during rehab**, complete testing via the National HVAC Functional Testing Checklist, ENERGY STAR Multifamily New Construction Version 1.1 (or version applicable to NYS at the time of permit).
  - **For building envelope:** verify per the sampling requirements in this document that all envelope components (windows, doors, insulation, air-sealing) are included and installed in accordance with manufacturer's instructions and RESNET Grade I standards as applicable.

### Building Envelope:

- **Roof and roof insulation** must meet or exceed 2020 NYCECC prescriptive specifications. For buildings not requiring roof replacement, install cool roof coating (on roofs that accommodate coating) to reduce heat gain, and install cavity insulation to the extent space allows by filling the cavity completely (with minor compressions of the batts allowed) and meeting Grade I installation criteria per ANSI/RESNET/IC Std. 301.
- **All new windows, doors, skylights installed on project** must meet or exceed the requirements for U-value and Solar Heat Gain Coefficient (SHGC) per the current NYC Energy Conservation Code (NYCECC).
- **All windows** must be, at minimum, double-glazed and repaired such that they are fully functional.
- **Perform air-sealing to separate conditioned space from unconditioned space in all common areas and all in-unit areas that are part of the scope**, including weatherstripping, gasketing and sealing at perimeter of all windows, exterior doors, top of stair/elevator shafts, roof curbs, roof joints, exterior wall or roof penetrations, and penetrations between conditioned and unconditioned space.
- **Seal all penetrations around window/ wall air conditioners and PTACs** by providing a properly installed and gasketed/ sealed trim kit and sealing around piping penetrations.
- **If scope includes removal of the interior finish on exterior walls**, add insulation to the extent that cavity space allows and meeting Grade I installation criteria per ANSI/RESNET/IC Std. 301.
- **For buildings electrifying heating system:**
  1. **ALL windows and roof insulation must meet or exceed the requirements** for U-value and Solar Heat Gain Coefficient (SHGC) per the current NYC Energy Conservation Code (NYCECC).

2. **Insulation of exterior walls**, beyond where required by the bullet above, is strongly recommended but not mandatory and may include blown-in or exterior insulation.

### Heating Systems:

- **Refer to the applicable HPD, HCR or NYCHA Guidelines** to determine whether heating system is required to be electric.
- **Electric heating must meet the performance standards outlined in the applicable agency's Design Guidelines.**
  - Note that electrification requirements may be waived by the applicable agency due to technical or financial infeasibility.
- **Heating systems and equipment that are being replaced but not required to be electric must:**
  - Meet or exceed the efficiencies and performance standards in the applicable agency's Design Guidelines
  - Eliminate oil use as a primary or secondary source of fuel.
  - For boilers, equipment must be right-sized using a Cold-Start or Equivalent Direct Radiation (EDR) method, and must include modulating linkage-less burners.
- **The following Energy Conservation Measures must be implemented where applicable:**
  - Adjust temperature set points to reflect appropriate space occupancy and facility requirements.
  - Repair all visible and accessible heating system leaks.
  - Perform heating system maintenance, including but not limited to ensuring that system component parts are clean and in good operating condition. Refer to the AMEEP Program Manual for details and associated incentives for this measure.
  - Insulate all new and all exposed heating/hot water piping and uninsulated service hot water tanks to current NYCECC requirements or the extent that space allows.
  - For steam systems:
    - Install or upgrade master venting at the ends of all supply mains, large horizontal pipes, vertical pipes, and tops of risers.
    - Replace or repair all steam traps such that all are in working order. Steam traps are not required at 2-pipe steam heaters equipped with correctly sized orifice plates.

### Cooling:

All air conditioning, where required, must meet the efficiency criteria in the applicable agency's Design Guidelines or, for window or wall air conditioners, the unit must be ENERGY STAR rated or equivalent, and installed in a tightly fitting surround, air-sealed, and provided with seasonal covers or winter storage of units at the request of residents.

### Thermostats and Controls:

Ensure that every apartment has sensors and individual temperature controls for each heating/ cooling system:

- For steam systems, install wireless sensors in a minimum of 25% of apartments on various floors and at the end of each branch line that allow remote access and web-based monitoring and:
  - *One-pipe steam systems.* Where a space is reported to be overheated install insulated smart thermostatic radiator enclosures with temperature controls.

- *Two-pipe steam systems.* Ensure that TRVs and orifice plates are installed and in good working order in apartments and all common areas OR install insulated smart thermostatic radiator enclosures with temperature controls.
- Hydronic Systems: Install a controller with outdoor temperature reset and warm weather shut-down capability. For hydronic systems with fan-powered heaters, install electric thermostats connected to the fan. For hydronic systems that can support zone control, install zone control (zone valves or zone pumps, each with a thermostat) for each zone (typically apartment), or thermostatic valves on each radiator.
- Heat Pump Systems: Each apartment shall be treated as an individual heating zone controlled by an easy-to-read wall-mounted (or in the case of Room Heat Pumps, controls may be on the unit) 7-day programmable thermostat with the ability to program night-time setbacks and set-point limits as allowed by code and:
  - Preset all units with reasonable and code-compliant typical heating & cooling temperatures. For example: Heating: 70 degrees daytime and 66 degrees night-time. Minimum temperatures during heating season must comply, at minimum, with NYC's Heat Laws Cooling: 74 degrees occupied, and 80 degrees when away
  - Preset maximum/minimum limits to prevent overuse, typically 74 degrees maximum for heating (may be higher for seniors) and 72 degrees minimum for cooling.
  - Provide easy-to-read instructions for residents about basic equipment and thermostat functions, including override, "away" mode, and energy savings.
- For central HVAC systems, provide control capabilities of equipment and set-points through BACnet infrastructure or equal.

**Domestic Hot Water:**

- Refer to the applicable agency's Design Guidelines to determine which equipment must be electric.
  - Note that electrification requirements may be waived by the applicable agency due to technical or financial infeasibility.
- To the extent feasible, decouple all DHW systems that are part of heating systems.
- All electric DHW system must meet the performance standards outlined in the applicable agency's Design Guidelines
- DHW systems being replaced but not requiring electrification must be replaced with high-performance non-electric DHW systems meeting the performance standards outlined in the applicable agency's Design Guidelines
- For DHW systems that are not being replaced, perform heating system maintenance, including but not limited to ensuring that system component parts are clean and in good operating condition. Refer to the AMEEP Program Manual for details.
- Insulate all new and accessible uninsulated heating/hot water piping and uninsulated service hot water tanks to current NYCECC requirements

### **Sampling Protocol for Tenant in Place Rehabs:**

Project teams may choose to test and confirm the accuracy and performance of all systems and dwelling units in the project through a sampling protocol inspired by RESNET's Guidelines for Multifamily Energy Ratings.

If following the sampling methodology, the submitting team attests that all information is complete and accurate, and that it is reasonable to assume that all project dwelling units and systems meet or exceed the performance values and assumptions of the dwelling units tested and representing the worst-case configuration of each unique unit type.

To be eligible for sampling, the components/systems that are tested and those that are not tested but whose performance is represented by the tested components/systems, must be found within dwelling units that:

- 1) Are within 60 days of the same state of completion (regardless of dwelling unit size, configuration, and/or types) OR
- 2) Are within +/-10% of conditioned floor area and use the same key contractors (insulation, electrical, framing, HVAC)

Verification must be conducted without incidence of failure on at least seven consecutive dwelling units, before sampling is permitted. Then, sampling is permitted accordingly:

- For projects with < 100 dwelling units, test at least 15% of all remaining units after the first seven
- For projects with > 100 dwelling units, test at least 10% of all remaining units after the first seven
- For projects with > 1000 dwelling units, test 10% of the first 1000 units and then 5% of all units beyond 1000

Tests and inspections must be distributed proportionately across floors and across buildings. At least one test/inspection of each type must be completed in any building with seven or more dwelling units.

If a test or inspection failure occurs, that failed item(s) shall be re-tested or inspected until it passes AND must be successfully tested or inspected in two additional dwelling units before sampling resumes. When an additional failure occurs in one or more of the two additional dwelling units, the failed item shall be tested or inspected in at least four additional dwelling units. If three failures occur before sampling resumes, seven additional dwelling units must be tested without failure before resuming sampling.