

# MPP-NC Technical Requirements

## Supplemental Requirements for NYSERDA's Multifamily Performance Program – New Construction Component

All NYSERDA Multifamily Performance Program – New Construction (MPP-NC) projects shall meet the requirements set forth in the EPA's [ENERGY STAR Qualified Multifamily High Rise program](#), for either the Performance Path or the Prescriptive Path. All MPP-NC projects also must meet the additional NYSERDA requirements detailed in this document and the requirements listed in NYSERDA's MPP-NC Program Guidelines.

### New York State Code Requirements

All projects constructed under this program must meet or exceed the provisions of applicable Codes of New York State and local codes.

The following are a few examples of commercial energy code (NYS ECCC Chapter 5) provisions that are often overlooked and for which all projects that the commercial energy code is applicable must meet or exceed. Similar provisions apply for projects that fall under the jurisdiction of other state and local codes.

- HVAC piping insulation requirements are stricter in the NYS ECCC than in the ENERGY STAR program. See NYS ECCC Section 503.2.8 for details.
- Details on how to install a continuous air barrier are provided in NYS ECCC Section 502.4.3.
- Direct metering or submetering of the electricity use of apartments is required per NYS ECCC 505.7.

### Additional Building Component Requirements

In addition to all requirements listed in the EPA's ENERGY STAR Multifamily High Rise National Prescriptive Path Requirements and the EPA's ENERGY STAR Multifamily High Rise National Performance Path Requirements, NYSERDA requires the following to be met. Unless otherwise noted, the following requirements apply to both Performance and Prescriptive Path projects.

#### HEATING AND COOLING EQUIPMENT

- Heating and cooling equipment shall be ENERGY STAR qualified, where applicable. Specifically, heating and cooling equipment of any product category that is eligible for ENERGY STAR qualification must be ENERGY STAR qualified. For example, a residential boiler with a rating of 100,000 Btu per hour would need to be ENERGY STAR qualified; but a boiler intended for commercial applications with a rating of 300,000 Btu per hour energy (which is not eligible for ENERGY STAR qualification) would not\*.

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\* The examples provided are intended for illustrative purposes only. Actual ENERGY STAR specifications are subject to change and can be found at [www.energystar.gov](http://www.energystar.gov).

Please refer to the ENERGY STAR website ([www.energystar.gov](http://www.energystar.gov)) for more details on which product categories are eligible for ENERGY STAR qualification.

## HEATING AND COOLING DISTRIBUTION

- Heating and cooling supply and return ductwork shall be insulated to a minimum R-4 in conditioned space.

## ENVELOPE

- Window frames shall be separated from conductive framing (metal & masonry studs, lintels & sills) with insulation designed to serve as a thermal break.

## VENTILATION AND INFILTRATION

- Outdoor air shall be provided to each unit directly from the outdoors. Projects using exhaust ventilation systems must specify how outside air is delivered at the flow rate required by ASHRAE 62.2-2007. Systems that rely on transfer air from pressurized hallways or corridors, adjacent to dwelling units, attics, etc., are prohibited.

Exhaust fans that provide the local exhaust for kitchens and bathrooms can simultaneously facilitate the outdoor air ventilation system for the apartment, with sufficient make-up air provided mechanically or by a dedicated make-up outdoor air source (e.g., trickle ventilators).

## DOMESTIC HOT WATER

- Domestic water heating equipment shall be ENERGY STAR qualified, where applicable. Specifically, domestic water heating equipment of any product category that is eligible for ENERGY STAR qualification must be ENERGY STAR qualified. For example, a gas storage water heater with a nominal input of 75,000 BTU/hour or less and a rated storage volume from 20 to 100 gallons would need to be ENERGY STAR qualified; but a gas storage water heater with a rated storage volume larger than 100 gallons (which is not eligible for ENERGY STAR qualification) would not\*. Please refer to the ENERGY STAR website ([www.energystar.gov](http://www.energystar.gov)) for more details on which product categories are eligible for ENERGY STAR qualification.

## COMMON SPACE LIGHTING

- All light fixtures in non-apartments spaces, including hallways, stairwells, lobbies, elevators and decorative fixtures, shall have combined lamp and ballast efficacies

meeting or exceeding ENERGY STAR specifications<sup>†</sup>. Alternatively, T-5 or T-8 lamps with electronic ballasts or ENERGY STAR qualified screw-in lamps may be used.

## OUTDOOR LIGHTING

- All outdoor lighting fixtures shall have combined lamp and ballast efficacies meeting or exceeding ENERGY STAR specifications<sup>†</sup>.

## IN-UNIT LIGHTING

- All hard-wired lighting fixtures installed within apartments shall meet or exceed ENERGY STAR specifications<sup>†</sup>. ENERGY STAR qualified screw-in lamps may be used in the following applications only: Closets, storage spaces, and other locations that are not within habitable living space.
- Overall in-unit lighting power density may not exceed **0.7 W/ft<sup>2</sup>**. When calculating overall lighting power density, use **0.7 W/ft<sup>2</sup>** for spaces where lighting is not installed. (PRESCRIPTIVE PATH ONLY)

## ENERGY STAR MFHR BENCHMARKING

- The Participant agrees to provide NYSERDA copies of all utility bills showing consumption and cost for electricity, fuel, and water, or an executed Data Release Authorization Form providing access to such information, for no less than three (3) years following the date of receipt of the Certificate of Occupancy. Such bills shall cover all common areas of the building and a representative sample of apartments. The apartment sample shall consist of at least 10% of the apartments with no fewer than five (5) apartments. Of the 10% sample, at least one of each apartment type (e.g. studio, large 1 bedroom) must be represented. Along with the Data Release Authorization Forms, a list of all apartment numbers and their corresponding apartment type (e.g. studio, large 1 bedroom) must be provided.

## Revisions to Simulation Guidelines

All NYSERDA Multifamily Performance Program – New Construction projects shall follow the EPA's ENERGY STAR Multifamily High Rise Simulation Guidelines, with the following revisions.

### 3.6 LIGHTING

#### In-unit Lighting

Replace the 1.1 W/ft<sup>2</sup> baseline and unspecified proposed lighting power density with 0.7 W/ft<sup>2</sup>, as shown below:

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<sup>†</sup> Information on ENERGY STAR lighting efficacy requirements can be found in the current version of the document titled "Luminaires Program Requirements" at the "Light Fixtures for Partners" page of the ENERGY STAR website, [www.energystar.gov](http://www.energystar.gov).

2. In the Baseline Building Design, in-unit lighting power density of **0.7 W/ft<sup>2</sup>** ~~4.1 W/ft<sup>2</sup>~~ shall be incorporated into the model.
3. In the Proposed Design, in-unit lighting power density of **0.7 W/ft<sup>2</sup>** ~~4.1 W/ft<sup>2</sup>~~ shall be modeled for rooms or portions of the rooms with no specified hardwired lighting.

### 3.16 ENERGY RATE

This section is replaced with the following guidance.

#### Performance Rating Calculations

The following average annual prices must be used for performance rating calculations of all projects in the Program:

Electricity:	0.1814 \$/kWh (1)
Natural Gas:	15.61 \$/Mcf (2)
Oil:	3.95 \$/gallon (3)

(1) One year state-wide average, U.S. DOE Energy Information Administration residential data. "Current and Historical Monthly Retail Sales, Revenues, and Average Retail Price by Sector", <http://www.eia.gov/state/state-energy-profiles-notes-sources-data.cfm>

(2) Dollar per thousand cubic feet (Mcf). One year state-wide average, U.S. DOE Energy Information Administration residential data. "Natural Gas Navigator", <http://www.eia.gov/state/state-energy-profiles-print.cfm?sid=NY>

(3) State average based on NYSERDA's Energy Analysis, <http://www.nyserda.ny.gov/Page-Sections/Energy-Prices-Supplies-and-Weather-Data/Home-Heating-Oil.aspx>

Actual rate schedules and pricing, according to the rate class that will most likely be assigned to the property, may be used only if savings associated with demand reduction are modeled. In this case the supporting documentation must be provided showing monthly fuel costs for 12 consecutive months.

Performance credit for the reduced energy cost may be claimed only if the cost reduction is due to the reduced energy consumption or demand. Following this rule, savings associated with sub-metering shall not be included in the performance rating.

### **Additional documentation**

In addition to all documentation and tools provided as part of the EPA's ENERGY STAR Qualified Multifamily High Rise program, NYSERDA's Multifamily Performance Program – New Construction requires the following administrative and guidance documents. Additional information on these documents and how they apply to projects can be found within the Program Guidelines document.

- Program Guidelines
- Project Information Form
- Terms and Conditions

- ERP Tables
- Incremental Cost Guidelines
- Baseline Cost Estimator
- Prescriptive Path Calculator