New Jersey's Clean Energy PROGRAM
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New Jersey Board of Public Utilities
Office of Clean Energy

Pay for Performance - EB Technical Tip

Modeling Destratification Fans

To model destratification fans, savings should be modeled by ***adjusting the thermostat setpoint*** and by ***increasing the equipment load*** in the space. Modeled decrease in heating temperature must be justified by temperature measurements in the subject spaces prior to retrofit to evaluate air stratification. Temperature measurements must be listed in *ERP Tables/Other Equipment tab/Temperature Measurements table*.

Note: If a BMS measure is included in the scope of work, the fan destratification ECM must be modeled after the BMS ECM, the measured temperatures must be adjusted to account for the new temperature settings, to avoid double-counting of savings.

Example

The temperature at the ceiling is 85°F and the temperature near the floor is 70°F, then the average temperature of air without de-stratification fans is (85°F+70°F)/2=77.5°F.

If the proposed fans reduce stratification to 3°F (70°F near floor, 70+3=73°F next to ceiling), then the average air temperature becomes (70+73)/2=71.5°F.

The savings should be modeled by changing thermostat setpoint in the space from 77.5°F to 71.5°F.

In addition, energy consumed by the de-stratification fan must be included in the simulation by increasing equipment load in the space. Fan energy calculations and key variables must be included with the submission.