STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

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June 19, 2014

Ms. Kathleen Burgess
Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, NY 12223-1350

Re: Case 07-M-0548 – Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard.

Dear Secretary Burgess:

On June 20, 2011, the Commission issued an order in Case 07-M-0548[1] that organized all approved Energy Efficiency Portfolio Standard (EEPS) programs into specific Classification Groups, and established a specific list of approved energy efficiency measures for each Classification Group. The order also authorized the Director of the Office of Energy Efficiency and the Environment (OEEE) to make consensus additions of measures to the list of measures established for a Classification Group. In addition, the order authorized the Director of the OEEE to make minor changes to the New York Standard Approach for Estimating Energy Savings from Energy Efficiency Programs, "Technical Manual" used to guide savings calculations. Minor changes are limited to updated data and calculations to reflect changes to factors such as energy codes and standards, product specifications, and evaluation results. Finally, the order allowed the Director of the OEEE to make substantive consensus modifications to the Technical Manual.

[1] Case 07-M-0548, Energy Efficiency Portfolio Standard, Order Approving Modifications to the Energy Efficiency Portfolio Standard (EEPS) Program to Streamline and Increase Flexibility in Administration, issued June 20, 2011.

The Commission outlined the following process to effect consensus changes:

1. The exact text of the intended modifications shall be presented in writing to the members of the Implementation Advisory Group (IAG) consisting of designated representatives of all program administrators. A copy shall be provided to members of the Evaluation Advisory Group (EAG).

2. The IAG and EAG shall be afforded a reasonable opportunity to review the intended modifications and to advise the OEEE Director as to the proposal.

3. If any member of the IAG objects to the intended modifications by making a written objection to the OEEE Director within a reasonable period of time established by the OEEE Director for the receipt of objections, the intended modifications may not be implemented without referral to and approval by the Commission.

4. If no member of the IAG makes a written objection to the intended modifications within a reasonable period of time established by the OEEE Director for the receipt of objections, the intended modifications may be implemented by the OEEE Director, without referral to and approval by the Commission, by filing the exact text of the modifications with the Secretary to the Commission in Case 07-M-0548 and by posting an update or supplement to either the Table of Classification Groups or the Technical Manual on the Commission's website.

On January 29, 2014 Con Ed submitted a request to add a gas saving measure referred to as a Window/Through the Wall Air Conditioner Cover/Gap Sealer to the Multifamily Gas Classification Group. Con Ed also requested the measure be added to the Technical Manual.

On March 11, 2014 staff submitted a request to add a gas and electric savings measure referred to as a Thermostatic Shower Restriction Valve to the Residential Electric, Residential Gas, Multifamily Electric and Multifamily Gas Classification Groups. Staff also requested the measure be added to the Technical Manual.

These proposals were provided to the members of the E^2 Working Group by electronic mail.[2] No written objections to the proposals were received within the time frame agreed to with members of the Group.

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[2] On December 26, 2013, the Commission issued an order merging the IAG and the EAG into a new group now referred to as the E^2 Working Group. Case 07-M-0548, Energy Efficiency Portfolio Standard (EEPS), Order Approving EEPS Program Changes, issued December 26, 2013.

In accordance with the authority granted in the Commission's June 20, 2011 and December 26, 2013 Orders, I find that the proposed additions to the Measure Classification List have the consensus support of the E^2 Working Group. Accordingly, I approve the addition of Window/Through the Wall Air Conditioner Cover/Gap Sealers to the Multifamily Gas Classification Group, and the addition of Thermostatic Shower Restriction Valves to the Residential Electric, Residential Gas, Multifamily Electric and Multifamily Gas Classification Groups. The enclosed Attachment 1 reflects these additions, and an updated Table of Classification Groups reflecting these additions is available on the Department's website.

Also in accordance with the authority granted in the Commission's June 20, 2011 and December 26, 2013 Orders, I find that the proposed changes to the Technical Manual have the consensus support of the E^2 Working Group. Accordingly, I approve of the changes to the Technical Manual; the enclosed Attachment 2 reflects these changes, and an updated Technical Manual reflecting these changes is available on the Department's website.

Sincerely,

Colleen L. Gerwitz

Colleen L. Gerwitz
Director
Office of Energy Efficiency and the Environment

cc: Anthony Belsito
Debra LaBelle
Robert Roby
Pete Sheehan

Enc.

A. Residential Electric

Category	Measure	Notes
Appliance	Dehumidifier	Energy Star Qualified
Appliance	Primary Refrigerator	CEE Tier 2 or 3
Appliance - Control	Advanced Power Strip	Two per Customer
Appliance Recycling	Dehumidifier	Unit must be working; Two Units per Customer
Appliance Recycling	Refrigerator/Freezer	Unit must be working; 10-30 Cubic Feet; Two Units per Customer
Appliance Recycling	Room Air Conditioner	Unit must be working
Building Shell	Air Sealing	Blower Door Assisted
Building Shell	Door Sweep	
Building Shell	Insulation	
Building Shell	Weather Stripping	
DHW	Air Source Heat Pump Water Heater	
DHW	Domestic Hot Water Pipe Insulation	
DHW - Control	Faucet Aerator	
DHW - Control	Low-Flow Showerhead	
DHW - Control	Water Heater Thermostat Setback	One per Unit; 120°F
DHW –Control	Thermostatic Shower Restriction Valve	
HVAC	Air Source Heat Pump	
HVAC	Central Air Conditioner	
HVAC	Duct Sealing	
HVAC	Electronically Commutated Motor (ECM)	Original Component of New Furnace
HVAC	Electronically Commutated Motor (ECM) Blower Motor	Retrofit
HVAC	Ground Source Heat Pump	
HVAC	Room Air Conditioner	Energy Star Qualified
HVAC	Space Heat Pipe Insulation	
HVAC - Control	Programmable Thermostat	One per Zone
Lighting	Fixture	
Lighting	Lamp	
Lighting	Relamping and Reballasting	

B. Residential Gas

Category	Measure	Notes
Building Shell	Air Sealing	Blower Door Assisted
Building Shell	Door Sweep	
Building Shell	Exterior Door	Insulated
Building Shell	Insulation	
Building Shell	Weather Stripping	
DHW	Domestic Hot Water Pipe Insulation	
DHW	Indirect Water Heater	
DHW - Control	Faucet Aerator	
DHW - Control	Low-Flow Showerhead	
DHW –Control	Thermostatic Shower Restriction Valve	
HVAC	Boiler	
HVAC	Duct Insulation	
HVAC	Duct Sealing	
HVAC	Furnace	
HVAC	Heating System Repair/Replacement	EmPower & LIURP, only
HVAC	Space Heat Pipe Insulation	
HVAC - Control	Boiler Reset Control	
HVAC - Control	Programmable Thermostat	One per Zone
Lighting	Fixture	
Lighting	Lamp	

C. Multifamily Electric

Category	Measure	Notes
Appliance	Primary Refrigerator	CEE Tier 2 or 3
Appliance - Control	Advanced Power Strip	Two per Customer
Appliance Recycling	Refrigerator	Unit must be working; 10-30 Cubic Feet; Two units per Customer
Appliance Recycling	Room Air Conditioner	Unit Must be Working
Building Shell	Air Sealing	Blower Door Assisted
Building Shell	Door Sweep	
Building Shell	Insulation	
Building Shell	Weather Stripping	
DHW	Domestic Hot Water Pipe Insulation	
DHW	Domestic Hot Water Tank Wrap	
DHW - Control	Faucet Aerator	
DHW - Control	Low-Flow Showerhead	
DHW –Control	Thermostatic Shower Restriction Valve	
HVAC	Air Source Heat Pump	
HVAC	Central Air Conditioner	
HVAC	Chiller	
HVAC	Ground Source Heat Pump	
HVAC	Room Air Conditioner	Energy Star Qualified
HVAC	Space Heat Pipe Insulation	
HVAC - Control	Programmable Thermostat	One per Zone
Lighting	Fixture	
Lighting	Lamp	
Lighting	Relamping and Reballasting	
Lighting - Control	Interior Lighting Control	
Motors & Drives	Motor	NEMA Premium Efficiency
Motors & Drives	Variable Frequency Drive System	

D. Multifamily Gas

Category	Measure	Notes
Building Shell	Air Sealing	Blower Door Assisted
Building Shell	Door Sweep	
Building Shell	Insulation	
Building Shell	Weather Stripping	
Building Shell	Window - Double Pane	Low-Income, only
Building Shell	Window/Through the Wall Air Conditioner/Gap Sealer	
DHW	Domestic Hot Water Pipe Insulation	
DHW	Indirect Water Heater	
DHW - Control	Faucet Aerator	
DHW - Control	Low-flow Showerhead	
DHW –Control	Thermostatic Shower Restriction Valve	
HVAC	Boiler	
HVAC	Duct Insulation	
HVAC	Duct Sealing	
HVAC	Furnace	
HVAC	Space Heat Pipe Insulation	
HVAC	Steam Trap	
HVAC	Thermostatic Radiator Valve	
HVAC - Control	Boiler Reset Control	
HVAC - Control	Energy Management System	
HVAC - Control	Programmable Thermostat	One per Zone
Lighting	Fixture	
Lighting	Lamp	

RECORD OF REVISION					
Revision Number	**Issue Date**	**Effective Date Range**	**Measure**	**Heading/Subsection of Tech Manual Change or Addition and Brief Description of Change/Addition**	**Location/Page in Tech Manual (October 15, 2010)**
6-14-1	6/19/14	6/20/14-9/19/14	Window/Through the Wall AC Cover/Gap Sealer	Window/Through the Wall AC Cover/Gap Sealer: Adds this new measure to the Multi-family Section	N/A – New Measure
6-14-2	6/19/14	6/20/14-9/19/14	Thermostatic Shower Restriction Valve	Thermostatic Shower Restriction Valve: Adds this new measure to the Single and Multifamily Sections.	N/A – New Measure

Record of Revision 6-14-1

MULTIFAMILY RESIDENTIAL MEASURES

BUILDING SHELL

WINDOW AND THROUGH-THE-WALL AIR CONDITIONER COVER & GAP SEALER

Description of Measure

A rigid, insulated cover installed on the inside of a window or through-the-wall room air conditioning (RAC) unit. It covers and seals the AC unit and the gap surrounding the unit. The cover is designed for RAC units left in place throughout the heating season; covers must be installed and maintained by building facility's staff.

Method for Calculating Annual Energy and Peak Coincident Demand Savings

$$\Delta therm = units \times [(1.08 \times CFM \times HDD \times 24hrs/day)/Boiler\ Efficiency)]/100{,}000$$

where:

Δtherm	= gross annual gas savings
units	= the number of units installed
1.08	= specific heat of air × density of inlet air @ 70°F × 60 min/hr
CFM	= air flow measured in cubic feet per minute
HDD	= heating degree days
100,000	= BTU to therm conversion

Annual Deemed Savings

Annual Deemed Energy Savings Values (therms), for New York City	
Low-End Estimate at 5 Pa* Indoor-Outdoor Pressure Differential	High-End Estimate at 10 Pa* Indoor-Outdoor Pressure Differential
23	32

** **Note**: Pa= Pascal, the standard unit of pressure or stress in the International System of Units (SI.) If indoor-outdoor pressure differential is not known, use the rounded average of 28 therms.*

Summary of Variables and Data Sources *(for informational purposes)*

Variable	Value	Notes
Heating plant seasonal efficiency	0.70	This value used in Urban Green Building Council study.
HDD	6,343	Albany Climate
HDD	6,954	Binghamton Climate
HDD	6,360	Buffalo Climate
HDD	7,738	Massena Climate
HDD	4,500	NYC Climate
HDD	5,781	Poughkeepsie Climate
HDD	6,301	Syracuse Climate
CFM low end	13	Field tested leakage at 5 Pa indoor-outdoor differential pressure

Coincidence Factor (CF)
The recommended value for the coincidence factor is – N/A

Baseline Efficiencies from which Savings are Calculated – N/A

Compliance Efficiency from which Incentives are Calculated – N/A

Operating Hours – N/A

Ancillary Fossil Fuel Savings Impacts – N/A

Ancillary Electric Savings Impacts – N/A

Effective Useful Life (EUL)
Years: 5 years
Source: At least one known manufacturer's warranty period.

References

1. *There Are Holes in Our Walls*; A Report Prepared for the Urban Green Building Council, by Steven Winter Associates, April 2011.

Record of Revision

Version Number	*Record of Revision Number*	*Record of Revision Issue Date*
0	6-14-1	6/19/14

Record of Revision 6-14-2

SINGLE and MULTIFAMILY RESIDENTIAL MEASURES

DOMESTIC HOT WATER - CONTROL

THERMOSTATIC SHOWER RESTRICTION VALVE

Description of Measure
Thermostatic valve attached to a showerhead supply for reduction of domestic hot water flow and associated energy usage. The device restricts hot water flow through the showerhead by activating the trickle or stop flow mode when water reaches a temperature set point of 95°F, or slightly lower, depending on manufacturer.

Method for Calculating Annual Energy and Peak Coincident Demand Savings
The general algorithm for shower adapter is:

Number of Units × Savings per Unit

Deemed Savings Table

Natural Gas

GPM Flow Rate	1.5	1.75	2.0	2.25	2.5
Therm Savings					
Albany	6.2	7.3	8.3	9.3	10.4
Binghamton	6.4	7.4	8.5	9.6	10.6
Buffalo	6.2	7.2	8.3	9.3	10.3
Massena	6.6	7.8	8.9	10.0	11.1
Syracuse	6.2	7.2	8.2	9.3	10.3
Upstate Avg	6.3	7.4	8.4	9.5	10.5
Long Island	5.2	6.1	6.9	7.8	8.7
NYC	5.2	6.1	6.9	7.8	8.7
Electric					
kWh Savings					
Albany	141	164	188	211	235
Binghamton	144	169	193	217	241
Buffalo	141	164	187	211	234
Massena	151	176	201	226	251
Syracuse	140	163	186	210	233
Upstate Avg	143	167	191	215	239
Long Island	118	137	157	177	196
NYC	118	137	157	177	196

Summary of Variables and Data Sources *(for informational purposes)*

Variable	Value	Notes
KWh savings		Look up based on location and water usage rate
Therm savings		Look up based on location and water usage rate
GPM_{ee}		From application
GPM_{base} (New York City)	2.0[1]	Per 2012 update to NYC Plumbing Code (table 604.4)
GPM_{base} (All other New York State areas)	2.5	Per NYS Energy Conservation Law, subsection 15-0314
Throttle factor	0.75	
Behavioral Waste Time	Average value of 1.67 min. (1 min., 40 seconds.)	Calculated from total water waste percentage of 30%, from Abstract of reference listed below.
Showers/day	2	
T_{shower}	105	
T_{mains}		Avg T_{mains}
Water heater efficiency	0.97	Electric
	0.75	Gas

Inlet Water Temperature Factors (Same table used for all DHW measures.)

City	Annual average outdoor temperature (°F)	T mains (°F)
Albany	48.2	54.2
Binghamton	46.9	52.9
Buffalo	48.3	54.3
Massena	44.7	50.7
Syracuse	48.6	54.6
Upstate Average	47.3	53.3
Long Island	56.5	62.5
NYC	56.5	55.0

Coincidence Factor (CF)
The recommended value for the coincidence factor Is – N/A

Baseline Efficiencies from which Savings are Calculated – N/A

Compliance Efficiency from which Incentives are Calculated – N/A

Operating Hours – N/A

[1] Use the default values unless other showerhead flow rate is known.

Ancillary Fossil Fuel Savings Impacts – N/A

Ancillary Electric Savings Impacts – N/A

Effective Useful Life (EUL)
Years: 10years
Source: n/a

References

1. Water and Energy Wasted During Residential Shower Events: Findings from a Pilot Field Study of Hot Water Distribution Systems, Jim Lutz, Lawrence Berkeley National Laboratory, September 2011; LBNL-5115E

Record of Revision

Version Number	*Record of Revision Number*	*Record of Revision Issue Date*
0	6-14-2	6/19/14