# MULTIFAMILY OPERATIONS AND MAINTENANCE GUIDE

Multifamily Operations and Maintenance rebates are available for facilities implementing at least one of the measures below. For the first measure completed, earn a $150 rebate—plus $100 more for each additional completed measure. Altogether, you could earn up to $750. Measure details and supporting documentation must be submitted via the Multifamily Operations and Maintenance application. Supporting documentation includes, but is not limited to, photos, screenshots, manufacturer specifications, and mechanical drawings.

For more information, visit **focusonenergy.com/multifamily**.

## Supply Air Temperature Reset

The intent of this measure is to capture savings associated with implementing a new supply air temperature reset or optimizing a programmed supply air temperature reset strategy for a single zone of a building. This measure is based on outside air temperature. Both cooling and heating resets are available to implement.

### Required Inputs

- Existing heating setpoint.
- Heating outside air temperature reset range.
- Heating supply air temperature reset range.
- Existing cooling setpoint.
- Cooling outside air temperature reset range.
- Cooling supply air temperature reset range.

### Optional Inputs

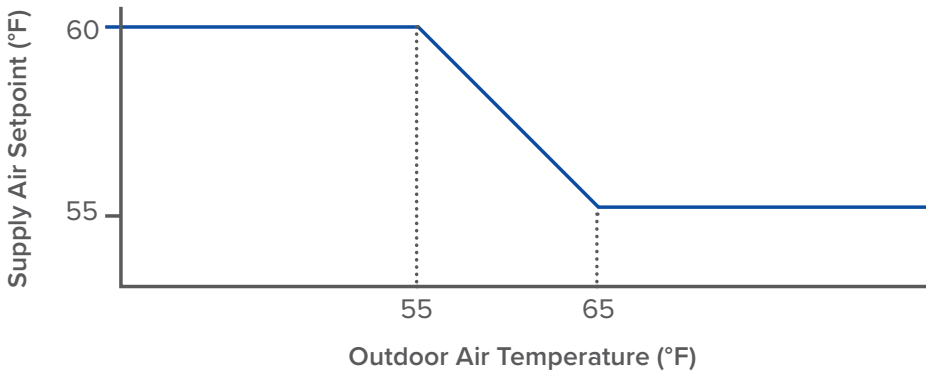
- Building space type.
- Cooling type (direct expansion [DX], air-cooled chiller, water-cooled chiller).

### Supporting Documentation

- Existing heating/cooling setpoint.
- Supply air temperature reset range.

## Additional Details

Depending on the outside air temperature, adjust the temperature setpoints higher or lower for the supply air temperature you have listed on the building automation system (BAS).

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## Hot Water Temperature Reset

The intent of this measure is to capture savings by adjusting the hot water supply setpoints to lower temperatures based on actual building load. It assumes that the current hot water supply is a constant temperature with no reset strategy in place. It also assumes that a constant heating water flow rate is used throughout the heating season.

### Required Inputs

- Existing hot water setpoint.
- Boiler water flow rate (or model number).

### Optional Inputs

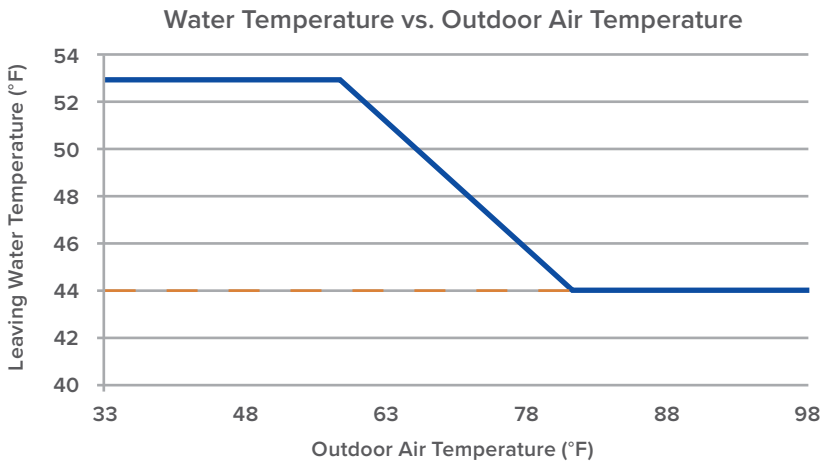
- Building space type.
- Boiler model number.

### Supporting Documentation

- Boiler model number/specs.

## Additional Details

Depending on the outside air temperature, adjust the temperature setpoints higher or lower for the supply air temperature you have listed on the BAS.




## Schedule Optimization

The intent of this measure is to capture savings associated with resetting the nighttime (or unoccupied) setpoints on programmable thermostats or direct digital control systems. This measure addresses both typical weekday and weekend building schedules.

### Required Inputs

- Existing and proposed weekday schedule.
- Existing and proposed weekend schedule.
- Temperature setback amount (°F).
- Cooling type (DX, air-cooled chiller, water-cooled chiller).

### Optional Inputs

- Building space type.
- Building square footage.
- Percent of building affected by schedule adjustment.

### Supporting Documentation

- Previous and new schedules for weekdays and weekends.
- Temperature setback amount.

## Additional Details

Set different schedules for each day of the week. Program the thermostat at constant temperatures for long blocks of time. For example, reduce temperature heating when the area is occupied, and increase heating when unoccupied. Effectively, select a day, time, and specific temperature for that time interval.

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## Chiller Setpoint Adjustment

The intent of this measure is to adjust the chilled water setpoint based on changing load conditions. This involves reprogramming the chiller plant controls to optimize chilled water for the building based on outside air temperature. This measure also looks at condenser water reset opportunities. This measure is not applicable to rooftop units or DX cooling systems.

### Required Inputs

- Cooling capacity (tons).
- Cooling type (air-cooled chiller or water-cooled chiller).
- Existing and proposed chilled water setpoint.
- Existing and proposed cooling tower water setpoint.

### Optional Inputs

- Building square footage.
- Cooling efficiency, known as energy efficiency ratio (EER).

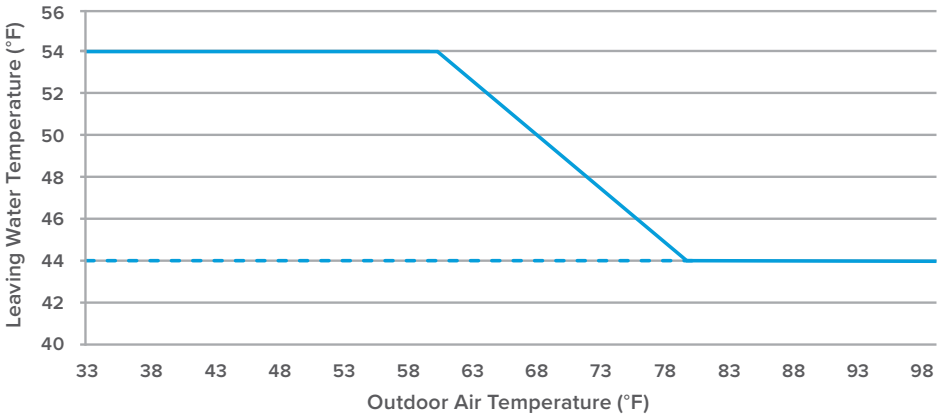
### Supporting Documentation

- Previous and new setpoints.
- Chiller capacity and efficiency.

## Additional Details

The setpoint is the temperature of the water leaving the chiller and being supplied to the building.

The dotted line is the static setpoint. The solid line is the new setpoint. Chilled water temperature will adjust based on outdoor dry-bulb temp.

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## Economizer Optimization

The intent of this measure is to capture savings associated with adjusting the control of outside air economizer units. Savings come from adjusting the temperature range over which economizing is enabled.

### Required Inputs

- Previous economizing outside air temperature range.
- New economizing outside air temperature range.
- Cooling capacity (tons).
- Cooling type (DX, air-cooled chiller, water-cooled chiller).

### Optional Inputs

- Cooling efficiency (EER).
- Building square footage.

### Supporting Documentation

- Chiller capacity and efficiency.
- Baseline temperature range.
- New temperature range.

## Additional Details

This measure requires setpoint adjustments in the BAS. It expands the range of temperatures within which economizing is occurring. For example, if the economizing range is 60°F-70°F, we instead change it to 50°F-70°F. Additionally, this measure includes lowering the economizing enable range. For example, this would mean reducing the setpoint from 60°F to 55°F. Economizing should also include a low setpoint to start cooling and a high setpoint to stop economizing.

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## Delamp Lighting

The intent of this measure is to capture savings associated with removing some lamps from existing lighting fixtures. This is for situations in which the lighting levels will still be adequately provided with fewer lamps. It is assumed that the fixtures will operate with the same operating hours before and after the delamping.

### Required Inputs

- Number of lamps removed.
- Wattage of each lamp removed.
- Hours of operation per year.

### Optional Inputs

- Building space type.

### Supporting Documentation

- Lighting type.
- Lamp wattage.
- Hours of operation.

## Additional Details

Remove lamps. No minimum of lamps is required.

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## Reduce Domestic Hot Water Setpoint

The intent of this measure is to capture savings associated with reducing the temperature setpoint of domestic water heater(s).

### Required Inputs

- Heater type (electric/gas).
- Existing temperature setpoint.
- Proposed temperature setpoint.
- Heating capacity (British thermal units per hour or kilowatts).
- Number of heaters.

### Optional Inputs

- How many people use this water.

### Supporting Documentation

- Heater type.
- Heater capacity.
- Existing and proposed setpoints.

## Additional Details

Reduce the hot water setpoint to a lower temperature. For example, reduce it from 140°F-120°F.

### Hot Water Thermostat Temperature Settings

**Temperatures are approximate.**

Typical gas-fired heater thermostats vary from 60°F-160°F. Most owner's manuals recommend a 120°F energy-saving setting.

Rebates are subject to change and cannot exceed project costs.

## Contact FOCUS ON ENERGY® to get started!

**800.762.7077 | multifamily@focusonenergy.com**

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