

# ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

**Directions:** Please save a copy of this form to your computer by selecting “File/Save As” before entering text and numbers. Then fill in your information electronically and select “Save.” Note that this form requires Adobe Reader® version 11.0 to function properly. Download the most recent version of Adobe Acrobat Reader DC® at <http://get.adobe.com/reader>.

**A pre-approval application is required; review instructions on the standard and custom incentives pre-approval and final application form. Wait for pre-approval before starting your project.**

## Specifications

1. HVAC EMS systems must be new and include:
  - Central time control
  - Real-time outside air damper positioning
  - Graphic operator interface
  - System ability to generate reports such as fault detection and diagnostics report, energy use intensity (EUI), etc.
  - Web-based interface with PC-based controls
  - Minimum setback space temperature of at least +/- 5°F in both heating and air condition mode
  - Minimum setback period of more than 2,200 hours per year
2. Buildings upgrading existing digital EMS are eligible for this incentive if existing system is 15 years or older.
3. Residential space cannot be included in the claimed square footage.
4. If new construction, control strategies required by code are not eligible.
5. Only new control strategies not present in the existing system may count as eligible Tier strategies.

Note: Your gas company may offer an additional prescriptive or custom rebate for this measure. Visit [NicorGasRebates.com](http://NicorGasRebates.com), [PeoplesGasRebates.com](http://PeoplesGasRebates.com) or [NorthShoreGasRebates.com](http://NorthShoreGasRebates.com) for more information.

## Required Documents

The documents listed below are required for any project applying for the EMS incentive and must be submitted along with all of the standard application documentation shown on page 2 of the pre-approval and final application form.

### Include the following information with your pre-approval application:

The scope of work must include a list of control strategies along with a plan for how each will be implemented.

A dimensional floor plan which allows for square foot verification.

EMS system software and hardware component specifications.

For projects with existing EMS, submit documentation to verify system age (e.g. date on existing drawings or hardware panel with installation data photo).

### Include the following information with your final application:

A detailed sequence of operations demonstrating how each selected strategy is implemented.

For projects over 180,000ft<sup>2</sup>, complete pages 5 to 8.

Control system screenshots that verify each implemented strategy chosen on the application:

Screenshots must validate the control logic and the monitored points.

One screenshot must exhibit a trend report that confirms implementation of a selected control strategy.

<b>Customer Name:</b>

# ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

## Please Describe the Current System

### Control Strategies

Please select each control strategy that the current HVAC control system has in place.

#### Air Handling / Ventilation Systems:

- |   |   |
|---|---|
| Optimal start/stop  | Supply air static pressure reset                      |
| Economizer control - dry bulb or enthalpy changeover  | Supply air temperature reset                          |
| Improved outside air volume control (other than economizer)   | Morning warm up cycle with outside air fully closed   |
| Demand control ventilation using carbon dioxide sensors   | Morning cool down cycle with outside air fully closed |
| Cooling lockout based on outside air temperature  | Heating lockout based on outside air temperature      |
| Occupied space conditioning equipment control - minimum/maximum dual set points for occupied and unoccupied periods for VAV boxes |   |
| Other:  |   |

---

#### Central System and Central Plant:

- |  |  |
|--|--|
| Condenser water temperature setpoint reset | Distribution pump speed control/sequencing |
| Chilled water temperature setpoint reset   | Cooling tower fan speed control/staging    |
| Chiller or compressor sequencing           | Other:                                     |

---

#### Facility Heating Systems:

- |          |             |        |
|----------|-------------|--------|
| Electric | Natural Gas | Other: |
|----------|-------------|--------|

# ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

## Please Describe the New System

### Eligible Enhanced Control Strategies

Please select each control strategy that the proposed HVAC control system has in place.

To meet the Tier 2 incentive requirement, you must select at least three control strategies from Tier 2.

#### TIER 1 - Air Handling / Ventilation Systems:

- |   |   |
|---|---|
| Optimal start/stop  | Supply air static pressure reset                      |
| Economizer control - dry bulb or enthalpy changeover  | Supply air temperature reset                          |
| Improved outside air volume control (other than economizer)   | Morning warm up cycle with outside air fully closed   |
| Demand control ventilation using carbon dioxide sensors   | Morning cool down cycle with outside air fully closed |
| Cooling lockout based on outside air temperature  | Heating lockout based on outside air temperature      |
| Occupied space conditioning equipment control - minimum/maximum dual set points for occupied and unoccupied periods for VAV boxes |   |
| Other:  |   |

---

#### TIER 2 - Central System and Central Plant:

- |  |  |
|--|--|
| Condenser water temperature setpoint reset | Distribution pump speed control/sequencing |
| Chilled water temperature setpoint reset   | Cooling tower fan speed control/staging    |
| Chiller or compressor sequencing           | Other:                                     |

# ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

## Building Energy Management System

Installation of EMS on existing buildings with non-programmable pneumatic thermostats.

**TIER 1: At least (3) control strategies implemented**  
**\$0.25 per square foot of conditioned space**

EQUIPMENT TYPE INSTALLED	SQUARE FEET	INCENTIVE

**TIER 2: At least (6) control strategies implemented**  
**\$0.35 per square foot of conditioned space**

EQUIPMENT TYPE INSTALLED	SQUARE FEET	INCENTIVE

---

Installation of EMS on existing buildings with non-programmable electronic thermostats

**TIER 1: At least (3) control strategies implemented**  
**\$0.25 per square foot of conditioned space**

EQUIPMENT TYPE INSTALLED	SQUARE FEET	INCENTIVE

**TIER 2: At least (6) control strategies implemented**  
**\$0.35 per square foot of conditioned space**

EQUIPMENT TYPE INSTALLED	SQUARE FEET	INCENTIVE

---

Installation of EMS on existing buildings with programmable thermostats

**TIER 1: At least (3) control strategies implemented**  
**\$0.15 per square foot of conditioned space**

EQUIPMENT TYPE INSTALLED	SQUARE FEET	INCENTIVE

**TIER 2: At least (6) control strategies implemented**  
**\$0.25 per square foot of conditioned space**

EQUIPMENT TYPE INSTALLED	SQUARE FEET	INCENTIVE

# ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

## Building Energy Management System (cont'd)

### Installation of EMS on existing buildings with existing digital EMS older than 15 years

**TIER 1: At least (3) control strategies implemented**  
**\$0.15 per square foot of conditioned space**

EQUIPMENT TYPE INSTALLED	SQUARE FEET	INCENTIVE

**TIER 2: At least (6) control strategies implemented**  
**\$0.25 per square foot of conditioned space**

EQUIPMENT TYPE INSTALLED	SQUARE FEET	INCENTIVE

GRAND TOTAL INCENTIVE REQUESTED

Incentive cannot exceed 100 percent of the incremental measure cost and 75 percent of the total project cost and must meet all program terms and conditions.

Supply your available information on pages 5, 6, 7 and 8 if you are installing an Energy Management System in a building over 180,000 ft<sup>2</sup>. If you need additional space, please submit an attachment.

## Operating Hours

The facility operates the following hours (e.g., 0600 to 1800 or on demand):

### Summer

WEEKDAY START TIME:	WEEKEND START TIME:
SATURDAY START TIME	SATURDAY END TIME
SUNDAY START TIME	SUNDAY END TIME
NUMBER OF SHIFTS PER WEEKDAY	NUMBER OF SHIFTS PER WEEKEND DAY

### Winter

WEEKDAY START TIME:	WEEKEND START TIME:
SATURDAY START TIME	SATURDAY END TIME
SUNDAY START TIME	SUNDAY END TIME
NUMBER OF SHIFTS PER WEEKDAY	NUMBER OF SHIFTS PER WEEKEND DAY

# ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

## Cooling System

### Maximum Cooling Load (tons)

BASELINE:	POST CONDITIONS:

### Minimum Cooling Load (tons)

BASELINE:	POST CONDITIONS:

EQUIPMENT TYPE

### Cooling Full Load Average Efficiency (kW/ton)

BASELINE:	POST CONDITIONS:

### Cooling Part Load Average Efficiency (kW/ton)

BASELINE:	POST CONDITIONS:

### Minimum Temperature Requiring Cooling (°F)

BASELINE:	POST CONDITIONS:

## Heating System

### Maximum Heating Load (tons)

BASELINE:	POST CONDITIONS:

### Minimum Heating Load (tons)

BASELINE:	POST CONDITIONS:

EQUIPMENT TYPE

### Heating Full Load Average Efficiency (kW/ton)

BASELINE:	POST CONDITIONS:

### Heating Part Load Average Efficiency (kW/ton)

BASELINE:	POST CONDITIONS:

### Heating System Design Temperature (°F) - Comp Cycling Limit

BASELINE:	POST CONDITIONS:

# ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

## General Inputs

EXISTING CONTROL TYPE

POST CONTROL TYPE

SYSTEM CFM/TON

SYSTEM CFM

Is operator training offered?

Yes

No

Did operator training take place?

Yes

No

## Temperature Setpoints

**Occupied Cooling (°F)**

BASELINE:

POST CONDITIONS:

**Unoccupied Cooling (°F)**

BASELINE:

POST CONDITIONS:

**Occupied Heating (°F)**

BASELINE:

POST CONDITIONS:

**Unoccupied Heating (°F)**

BASELINE:

POST CONDITIONS:

# ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2019 through December 31, 2019

## Demand Control Ventilation

<b>OUTSIDE AIR CODE REQUIREMENT (%)</b>

<b>ESTIMATED OUTSIDE AIR REDUCTION (%)</b>

<b>ESTIMATED NUMBER OF OCCUPANTS IN CONTROLLED ZONES</b>

## Economizer

<b>MECHANICAL COOLING REQUIRED ABOVE (DRY BULB)</b>

<b>MECHANICAL COOLING CONSTANT ABOVE (°F)</b>

<b>MINIMUM COOLING LOAD (TONS)</b>

<b>MAXIMUM COOLING LOAD (TONS)</b>

<b>HVAC PART (LOW) LOAD AVERAGE EFFICIENCY (KW/TON)</b>

<b>HVAC DESIGN FULL LOAD EFFICIENCY (KW/TON)</b>

## OAR Input

<b>MAXIMUM OUTSIDE AIR (%)</b>

<b>MINIMUM OUTSIDE AIR (%)</b>

<b>DISCHARGE AIR TEMPERATURE (°F)</b>

<b>CONDITIONED SPACE TEMPERATURE (°F)</b>

<b>MECHANICAL COOLING (<math>\Delta</math> TEMPERATURE)</b>

Terms and conditions apply.  
 Actual savings will vary by customer's energy usage and rate.  
 © Commonwealth Edison Company, 2019  
 The ComEd Energy Efficiency Program is funded in compliance with state law.