

ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2018 through December 31, 2018

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.

Building Energy Management System

SPECIFICATIONS:

1. If incorporated with demand controlled ventilation, real-time carbon-dioxide monitoring at the operator interface is required.
2. 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
 - Web-based interface with PC-based controls
 - Minimum setback space temperature of at least 8 °F in both heating and air condition mode
 - Minimum setback period of more than 2,200 hours per year
3. Buildings upgrading existing digital EMS are eligible for this incentive if existing system is 15 years or older.
4. Residential space cannot be included in the claimed square footage.

Note: Your gas company may offer an additional prescriptive or custom rebate for this measure. Visit NicorGasRebates.com, PeoplesGasRebates.com or 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.

1. 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 dimensioned 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).
2. Include the following information with your **final application**:
 - A detailed sequence of operations demonstrating how each selected strategy is implemented.
 - For projects over 180,000 ft², complete pages 4 and 5.
 - 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.

Company Name:

ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2018 through December 31, 2018

PLEASE DESCRIBE THE CURRENT SYSTEM:

Building Energy Management System (continued)

Eligible Enhanced Control Strategies

EMS systems must be new and include at least three enhanced control strategies to be eligible for Tier 1 incentives, and at least six enhanced control strategies to be eligible for Tier 2 incentives. Please put a check mark next to each control strategy that you wish to qualify for this incentive.

AIR HANDLING/VENTILATION SYSTEMS

<input type="checkbox"/> Optimal start/stop	<input type="checkbox"/> Supply air static pressure reset
<input type="checkbox"/> Economizer control – dry bulb or enthalpy changeover	<input type="checkbox"/> Supply air temperature reset
<input type="checkbox"/> Improved outside air volume control (other than economizer)	<input type="checkbox"/> Morning warm up cycle with outside air fully closed
<input type="checkbox"/> Summer/winter air volume change (two speed or variable speed)	<input type="checkbox"/> Morning cool down cycle with outside air fully closed
<input type="checkbox"/> Occupied space conditioning equipment control – minimum/maximum dual set points for occupied and unoccupied periods for VAV boxes	
<input type="checkbox"/> Other:	

CENTRAL SYSTEM AND CENTRAL PLANT

<input type="checkbox"/> Cooling lockout based on outside air temperature	<input type="checkbox"/> Distribution pump selection/sequencing
<input type="checkbox"/> Heating lockout based on outside air temperature	<input type="checkbox"/> Distribution pump speed control
<input type="checkbox"/> Condenser water temperature setpoint reset	<input type="checkbox"/> Cooling tower fan staging
<input type="checkbox"/> Chilled water temperature setpoint reset	<input type="checkbox"/> Cooling tower fan speed control
<input type="checkbox"/> Chiller or compressor sequencing	<input type="checkbox"/> Other:

LIGHTING CONTROL SYSTEM

<input type="checkbox"/> Interconnectivity with advanced lighting systems	
---	--

FACILITY HEATING SYSTEMS

<input type="checkbox"/> Electric	<input type="checkbox"/> Natural Gas	<input type="checkbox"/> Other:
-----------------------------------	--------------------------------------	---------------------------------

ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2018 through December 31, 2018

Building Energy Management System (continued)				
EQUIPMENT TYPE and DEFINITION	EQUIPMENT TYPE INSTALLED	(A) INCENTIVE PER UNIT	(B) SQUARE FEET	(A x B) INCENTIVE
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		
		TIER 2: At least (6) control strategies implemented \$0.35 per square foot of conditioned space		
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		
		TIER 2: At least (6) control strategies implemented \$0.35 per square foot of conditioned space		
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		
		TIER 2: At least (6) control strategies implemented \$0.25 per square foot of conditioned space		
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		
		TIER 2: At least (6) control strategies implemented \$0.25 per square foot of conditioned space		
			SUBTOTAL	\$

ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2018 through December 31, 2018

Supply your available information on pages 4 and 5 if you are installing a Energy Management System in a building over 180,000 ft². 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	Winter
Weekdays _____ to _____	Weekdays _____ to _____
Saturdays _____ to _____	Saturdays _____ to _____
Sundays _____ to _____	Sundays _____ to _____
Number of shifts per weekday: _____	Number of shifts per weekend day: _____
Cooling System (Baseline / Post conditions)	
Maximum cooling load: _____ / _____ tons	Minimum cooling load: _____ / _____ tons
Equipment type: _____	
Cooling full load average efficiency _____ / _____ kW/ton	Cooling part load average efficiency _____ / _____ kW/ton
Minimum temperature requiring cooling: _____ / _____ °F	Cooling system design temperature: _____ / _____ °F <i>-comp cycling limit</i>
Heating System (Baseline / Post conditions)	
Maximum heating load: _____ / _____ tons	Minimum heating load: _____ / _____ tons
Equipment type: _____	
Heating full load average efficiency: _____ / _____ kW/ton	Heating part load average efficiency: _____ / _____ kW/ton
Cooling system design temperature <i>-comp cycling limit</i> : _____ / _____ °F	
General Inputs	
Existing control type: _____	
Post control type: _____	
System CFM/ton: _____	System CFM: _____
Is operator training offered? <input type="checkbox"/> Yes <input type="checkbox"/> No	Did operator training take place? <input type="checkbox"/> Yes <input type="checkbox"/> No

ENERGY MANAGEMENT SYSTEM INCENTIVES WORKSHEET

January 1, 2018 through December 31, 2018

Temperature Setpoints (Baseline / Post conditions)

Occupied cooling: _____ / _____ °F

Unoccupied cooling: _____ / _____ °F

Occupied heating: _____ / _____ °F

Unoccupied heating: _____ / _____ °F

Demand Control Ventilation

Outside air code requirement: _____ %

Estimated outside air reduction: _____ %

Estimated number of occupants in controlled zones:

Economizer

Mechanical cooling required above: _____ dry bulb

Mechanical cooling constant above: _____ °F

Minimum cooling load: _____ tons

Maximum cooling load: _____ tons

HVAC part (low) load average efficiency: _____ kW/ton

HVAC design full load efficiency: _____ kW/ton

OAR Input

Maximum outside air: _____ %

Minimum outside air: _____ tons

Discharge air temperature: _____ °F

Conditioned space temperature: _____ °F

Mechanical cooling: _____ Δ temperature