



Garage Demand Ventilation Control Incentive Worksheet

Hawaii Energy

Effective from September 15, 2011 through March 15, 2012 and subject to availability of funding. This Program is available for and funded by the Commercial and Industrial Electric Utility Customers of Hawaii, Lanai, Maui, Molokai and Oahu and is administered under the direction of the Hawaii Public Utilities Commission.

Account Name: _____ Project / Building Name: _____

CO SENSOR EQUIPMENT

Existing Equipment				New Sensor Equipment				CO Setting (PPM)	
Notes/Comments:				Brand:					
				Model:					
				Serial Number:					
				Total Project Cost:					
EXISTING SYSTEM				NEW SYSTEM					
	Motor HP	Motor KW	Run Time (HR/YEAR)	KWH/YEAR		Motor HP	Motor KW	Run Time (HR/YEAR)	KWH/YEAR
Fan 1					Fan 1				
Fan 2					Fan 2				
Fan 3					Fan 3				
Fan 4					Fan 4				
Fan 5					Fan 5				
Fan 6					Fan 6				
Fan 7					Fan 7				
Total					Total				
Total KWH/YEAR Reduction (Existing System – New System)								KWH/YEAR	x \$0.18
Total Incentive Requested →									

PROGRAM DESCRIPTION

Demand-controlled ventilation (DCV) using carbon monoxide (CO) sensing is a combination of two technologies: Sensors that monitor CO levels in the parking garage, and an air-handling system that uses data from the sensors to regulate the amount of ventilation air admitted. CO sensors continually monitor the air in a parking garage. Given a predictable activity level, automobiles will exhaust CO at a predictable level. Thus CO production in the parking garage will closely track activity. Given these two characteristics, a CO measurement can be used to measure and control the amount of outside air that is being introduced to dilute the CO generated by automobiles. The result is that ventilation rates can be measured and controlled to a specific cfm/ft². This is in contrast to the traditional method of ventilating at a fixed rate regardless of occupancy.

Codes for enclosed parking areas require ventilation during all hours of operation to protect against an unhealthy build-up of carbon monoxide (CO). As a result, exhaust fans generally run 100% of operating hours. Although some buildings use timers to cut fan run time, it is important to note that the use of timers may not meet code compliance and health considerations. To achieve major energy savings and meet all health requirements, carbon monoxide sensors have now been authorized by code and mandated in some jurisdictions for new construction. Sensors measure CO levels, activating fans only when necessary to maintain CO at an acceptable level, saving upwards to 90% of energy cost.



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CO SENSOR REQUIREMENTS

To qualify for a Hawaii Energy Parking Garage Ventilation Incentive, the following conditions must be met:

1. Pre-notification before equipment is purchased and installed.
2. Incentive amount not to exceed Total Project Cost (including labor and material).
3. Failure of devices causes the exhaust fans to operate in the ON position
4. Automatic carbon monoxide sensing devices employed to modulate parking garage ventilation systems shall be approved pursuant to the requirements from the Department of Health (DOH) Title 11 Chapter 39-13 (Garage Ventilation), ASHRAE 62.1-2007, International Mechanical Code 2006 (Section 404 – Enclosed Parking Garage), whichever code, rule, regulation is most stringent.

CALCULATING YOUR INCENTIVE

$$\text{Incentive} = (\text{Existing System KWH/YEAR} - \text{New System KWH/YEAR}) \times \$0.18$$

Parking Garage Ventilation Incentive Worksheet Instructions

Required Documentation Checklist

- Incentive Application
- Parking Garage Ventilation Incentive Worksheet
- Manufacturer's specification sheets or Name Plate Information including:
 - Manufacturer
 - Model Number
 - Serial Number
 - Motor Size (nominal HP)
 - Motor Size (nominal KW)
 - Motor Run-Time
 - Fan Type
- Existing System KWH/YEAR minus New System KWH/YEAR
- Total Incentive – Multiply the Quantity of KWH/YEAR REDUCED by the Rebate Amount

Applicant Information

- 1) Enter Applicant Name
- 2) Enter Project Description (e.g. Facility, Building, Location, etc.)