

# Agricultural Energy Efficiency Program

## Ag Efficiency Plus

### Itemized Measures

#### ITEMIZED MEASURE TERMS AND CONDITIONS

#### Lighting

LAMP AND BALLAST DISPOSAL: The customer is responsible for the proper disposal/recycling of any waste generated including the disposal of fluorescent lamps (which contain mercury) and ballasts suspected of containing PCBs. (Any fluorescent ballast dated pre-1979 should be considered to contain PCBs unless otherwise labeled.) For more information on lamp recycling and ballast disposal contact the California Department of Toxic Substances Control at <http://www.dtsc.ca.gov/HazardousWaste/UniversalWaste/index.cfm>.

#### L-A. Cold Cathode Fluorescent Lamps

A cold cathode lamp must replace an incandescent lamp of at least 10 watts. Cold cathode lamps must range from 3 watts to 8 watts and may be medium (Edison) or candelabra base. Cold cathode lamps must be rated for at least 18,000 average life hours.

#### L-B. Screw-in Compact Fluorescent Lamps (CFLs)

CFLs must replace incandescent lamps. Replacing CFLs with CFLs is not allowed. Rebates will not be paid for a customer location that has previously received a rebate for a CFL without a pre-installation inspection. Customers requesting a rebate for additional fixtures at a service location that previously participated in this measure are subject to pre-inspection. Lamps purchased at retail outlets do not qualify for a rebate if the price has been reduced through a utility buy-down program.

**Self-ballasted** (one-piece screw-in) lamps must be ENERGY STAR®-qualified. Visit [www.energystar.gov](http://www.energystar.gov) for a list of qualifying lamps.

**Modular** (two-piece lamp and ballast adapter) units >15 watts must have electronic ballasts and meet the minimum efficacy requirements in Table 1 and the minimum lumen output requirements in Table 2.

Table 1: Minimum Efficacy Requirements

Lamp Power & Configuration Minimum Efficacy		Minimum Efficacy (Lumens Per Watt, Based on Initial Lumen Data)
<i>Bare Lamp</i>	Power < 15	45.0
	Power ≥ 15	60.0
<i>Covered Lamp (no reflector)</i>	Lamp Power < 15	40.0
	Lamp Power ≥ 15 and < 19	48.0
	Lamp Power ≥ 19 and < 25	50.0
	Lamp Power ≥ 25	50.0
<i>Covered Lamp (with reflector)</i>	Lamp Power < 20	33.0
	Lamp Power ≥ 20	40.0

Table 2: Minimum Lumen Output

Wattage of A-Shaped Incandescent Bulb	CFL Minimum Lumen Output (based on 100 hr. initial values)
40	Minimum of 450
60	Minimum of 800
75	Minimum of 1,100
100	Minimum of 1,600
150	Minimum of 2,600

### L-C. Hardwired Fluorescent Fixtures

Only complete new fixtures or modular retrofits with hardwired electronic ballasts qualify, and must replace an incandescent or mercury vapor fixture. Cols/ballasts must meet the minimum efficacy requirements of Table 1 above. CFL ballasts must be programmed-start or programmed rapid-start with a power factor (PF) of ≥ 90% and total harmonic index distortion (THD) of ≤ 20%. Linear fluorescent lamps/ballasts must meet the specifications defined in Measure L-E below. Compact and linear fluorescent fixtures are not eligible for rebates under Measures L-B, L-E, and L-H. Fixtures purchased at retail outlets do not qualify for a rebate if the price has been reduced through a utility buy-down program.

### L-D. Induction Lamps and Fixtures

Only complete new induction fixtures ≥ 55 watts that replace existing incandescent or mercury vapor fixtures qualify. Induction lamps < 55 watts are considered CFLs and may qualify under Measure L-B. Each new fixture must have a mean lamp/ballast efficacy > 50 lumens per watt (LPW). Indoor, outdoor area, and parking lot lighting qualify, but roadway and street lighting do not.

### L-E. T8 or T5 Linear Fluorescent Lamps with Electronic Ballasts

Rebate applies to existing T12 lamps and magnetic ballasts that are replaced by T8 or T5 lamps with electronic high frequency ( $\geq 20$  kHz). Underwriters Laboratory (UL) listed ballasts that are warranted against mechanical or electrical defects for five years, and have a PF of  $\geq 90$ . At full light output, ballasts for 4-foot and 8-foot lamps must have THD of  $<20\%$ , while ballasts for 2-foot and 3-foot lamps must have THD of  $\leq 32\%$ .

Programmed start/Programmed rapid-start ballasts must be used for T5 lamp installations. Replacement T5 lamps in low bay installations (under 15') must provide indirect lighting only. T8 and T5 replacement lamps must meet the Color Rendering Index (CRI) and Rated Lamp Life standards listed in Table 3 below, and the manufacturer's specification sheet must document these characteristics for each ballast type.

When T8 lamps are being installed for general illumination purposes, instant start ballasts must be used. When occupancy sensors are installed to control circuits in lamp/ballast retrofits, programmed start/programmed rapid-start ballasts are recommended in order to maximize lamp life. Occupancy sensor rebates are allowed with linear fluorescent lighting retrofits, but must meet the requirements of Measure L-J, Replacement lamps and ballasts rebated in Measure L-E are not eligible for rebates under Measures L-C and L-H.

Table 3: Lamp and Ballast Requirements

Lamp Type & Size	Ballast Type	CRI	Minimum Rated Lamp Life (3 hrs/start)
T8 – 2-ft, 3-ft, 4-ft	Programmed Start/ Programmed Rapid-start	$\geq 80$	24,000 hours
T8 – All sizes	Instant Start	$\geq 80$	18,000 hours
T5 – All sizes	Programmed Start or Programmed Rapid-start	$\geq 82$	20,000 hours

A de-lamping rebate may also apply. De-lamping is the permanent removal of existing T12 lamps/ballasts and unused lamp holders (tomb stones) from existing fixtures without replacing the lamps. To receive credit for de-lamping, customers must not remove more than half of the existing lamps and ballasts (along with lamp holders) from each fixture. The total number of lamps claimed for de-lamping may not be more than the number of replacement T8 or T5 lamps installed. Customers are responsible for deciding whether de-lamping will maintain adequate light levels.

### **L-F. High-Intensity Discharge (HID) Fixtures, Pulse Start**

Only complete new HID (metal halide or high-pressure sodium) fixtures that replace, one for one, existing incandescent or mercury vapor fixtures qualify. The HID system must have a mean lamp/ballast efficacy of 45 lumens per watt (LPW) for compact sources ( $\leq 100$  watts), and 55 LPW for standard or full-size sources ( $> 100$  watts). Metal halide fixtures under 400 watts can use either electronic or electromagnetic ballasts. Roadway and street lighting do not qualify.

### **L-G. Ceramic Metal Halide (CMH) Fixtures**

Only complete new CMH fixtures that replace, one for one, existing incandescent, halogen, or halogen infrared fixtures qualify. CMH lamps must be  $< 75$  watts with mean lamp/ballast efficacy  $> 55$  LPW.

### **L-H. Interior High Bay Linear Fluorescent Fixtures**

Only complete new T8 or T5 fixtures qualify. New fixtures must not exceed the maximum replacement wattage listed on rebate application and must be less than the wattage of the existing lamp. Fixtures must use T8 or T5 lamps and ballasts as specified in Measure L-E. New fixtures must replace, one for one, existing fixtures  $\geq 400$  watts: Incandescent, Mercury Vapor, T12 High or Very High Output Fluorescent, Standard Metal Halide, or High Pressure Sodium. All fixtures must be hardwired and installed at a height over 12' above the finished floor. Exterior installations do not qualify. Fixtures are not eligible for rebates under Measures L-C and L-E, but may qualify for an occupancy sensor rebate under Measure L-J, provided all requirements are met.

### **L-I. Interior Metal Halide Pulse Start Retrofit Fixtures**

Only pulse-start metal halide lamps and ballasts  $\leq 350$  watts that replace existing standard metal halide lamps and ballasts  $\geq 400$  watts qualify. Both retrofit kits and new fixtures qualify.

### **L-J. Lighting Occupancy Sensors**

This rebate applies to hardwired passive infrared and/or ultrasonic detectors that control interior lighting fixtures only. Self-contained wall-box lighting sensors are defined as units

without an exterior switch pack or relay that are designed to replace a standard wall switch. Integrated sensors in high bay fixtures are permanently installed in the lighting fixture and must control all lamps in the fixture. Wattage controlled requirements are listed in the table below where applicable.

Measure	Occupancy Sensor Type	Wattage Controlled
L-J1	Wall-box	N/A
L-J2	Wall or Ceiling Mounted	<500 watts
L-J3	Wall or Ceiling Mounted	≥500 watts
L-J4	Integrated Sensor in High Bay Fixture	N/A

### **L-K. Photocells**

Rebate applies to built-in or stand-alone photoelectric cells that switch outdoor lighting loads on at dusk and off at dawn.

### **L-L. Timeclocks**

Time clocks must control lighting equipment. All units must feature a minimum 3-hour battery backup to avoid time loss during a power outage. For outdoor lighting without a photocell, astronomical time clocks (where on-off time follows sunset and sunrise) are required.

### **L-M. Light Emitting Diode (LED) Exit Signs**

Only new exit signs that replace incandescent exit signs qualify. Non-electrified (such as tritium) and remote exit signs are not eligible. All new exit signs must meet UL-924 requirements. Exit signs must have a usage level  $\leq 5$  watts and a minimum product life of 10 years or be listed as ENERGY STAR®-qualified. Manufacturer's information stating the model number and ENERGY STAR® qualification or other qualifying specification sheet must be submitted with each rebate form. New exit signs must meet local fire codes. Retrofit kits are not eligible.

### **L-N. Light Emitting Diode (LED) Channel Signs**

This measure must replace incandescent-lighted or neon-lighted channel letter signs. Retrofit kits or complete replacement LED signs are eligible. Replacement signs cannot use

more than 20% of the actual input power of the sign that is replaced. Measure the length of the sign as follows:

1. Measure the length of each individual letter at the centerline. Do not measure the distance between letters.
2. Add up the measurements of each individual letter to get the length of the entire sign being replaced.

## **Dairy**

### **D-A. Milk Precooler**

Plate coolers must be set up to have a minimum of 1:1 water to milk flow ratio. Plate coolers must have an open, once in – once out water flow system. Plate coolers may not be closed, chilled water systems. Plate coolers may consist of first an open, in-out water system plus a closed, chilled water system.

### **D-B. Milk Transfer Pump Variable Speed Drive**

All milk transfer pump (MTP) variable speed drives (VSD) must be installed with sonic level sensor units rather than with fluid level floats that turn on a two or three speed motor. Pump motors must be variable speed motors rather than multiple speed motors. The plate cooler, through which the milk transfer pump pumps the milk, must have an open water system. The plate cooler must not be a closed, chilled water system. The MTP VSD may be installed where the plate cooler has an open water system and then a closed water system. The MTP VSD may be installed on single-phase power with three-phase adapter or installed on three-phase power supply. A line reactor is recommended to further reduce harmonics on the power line.

### **D-C. Milking Vacuum Pump Variable Speed Drive**

Milking vacuum pump variable speed drives must be installed on single-phase power with three-phase adapter or installed on three-phase power supply. Units must have manual and automatic emergency shutoffs. A line reactor is recommended to further reduce harmonics on the power line.

#### **D-D. Compressor Heat Recovery Unit (must have electric water heater)**

Compressor heat recovery units must be installed only where the facility's water is heated with electricity. Units must be sized to meet the minimum cooling needs of the compressor refrigeration system as determined by the producer's equipment dealer.

#### **D-E. Scroll Compressor**

Scroll compressors must meet or exceed the minimum specifications necessary to meet the cooling requirements of the refrigeration system as determined by the producer's equipment dealer. Qualified refrigeration technicians must install units.

### **Irrigation**

#### **I-A. Well Pump Variable Speed Drive (VSD)**

VSD incentives are for application on well pump systems. VSD added to any type of (working) well pump qualifies for rebate, whether for irrigation or other application, including centrifugal booster pumps. Claiming this measure under Itemized Measures may lead to a smaller rebate than under Calculated Measures, due to the operating hours assumed in the estimation of savings, which are relatively low for irrigation. A 3% impedance choke is recommended.

#### **I-B. Sprinkler to Drip Irrigation**

This measure must convert from a high-pressure, impact-type, sprinkler irrigation system (50 psi operating pressure or more at the sprinkler head) or surface furrow irrigation system to a micro-irrigation system. Not applicable to new plantings of vineyards or orchards unless a vineyard or orchard was the previous crop on the field. Drip tape systems are not eligible.

**Include an Assessor's Parcel Map or other documentation to verify acreage.**

#### **I-C. Low Pressure Sprinkler Nozzles**

This measure must convert from a high-pressure, sprinkler system nozzle (50 psi operating pressure or more at the sprinkler head) or overflow valve of a surface furrow irrigation system. Must be accompanied by a pumping plant analysis to ensure reasonable pumping efficiency (45% Overall Pumping Efficiency or above) after the conversion. Portable hand move or solid set systems may apply.

## **Refrigeration**

- Low temperature covers temperatures below 0°F.
- Medium temperature refers to refrigerated space temperatures between 0°F and 35°F.

### **R-B. Air Cooled to Evaporative Cooled Condensers**

Must replace an existing air cooled condenser with an evaporative condenser. The replacement should take place in hot/dry inland and desert-like climates (excludes climate zones with coastal weather characteristics). Replacement of a standard air cooled condenser with a standard evaporative condenser can take place for both conventional multiplex and single compressor systems. New evaporative condenser should be sized at roughly 25°F TD (temperature difference) above ambient wet bulb.

### **R-C. Anti-Sweat Heat (ASH) Controls**

Must install a device that senses the relative humidity in the air outside of the display case and reduces or turns off the glass door (if applicable) and frame anti-sweat heaters at low humidity conditions. Equivalent technologies that can reduce or turn off anti-sweat heater based on the amount of condensation formed on the inner glass pane may also qualify. This measure cannot be used in conjunction with measures R-P & R-R. Rebate is based on the total linear footage of the case.

### **R-D. Auto-Closers for Main Cooler or Main Freezer Doors**

The auto-closer should be applied to the main insulated opaque doors (Measure R-D1, R-D2) or glass doors (R-D3) of a walk-in cooler or freezer. The auto-closer must be able to firmly close that door when it is within one inch of full closure.

### **R-E. Efficient Evaporator Fan Motor**

Applicable to existing standard efficiency shaded pole (SHP) evaporator fan motor of refrigerated display cases or fan coil systems in walk-ins. Shaded pole motors to be replaced by either electronically commutated motors (ECM) or permanent-split-capacitor (PSC) motors. This measure cannot be used in conjunction with Evaporator Fan Controller (Measure R-F).

### **R-F. Evaporator Fan Controller for Walk-in Coolers**

Must reduce airflow of evaporator fans in medium-temperature walk-in coolers when compressor(s) cycle off and there is no refrigerant flow through the evaporator. Must control a minimum fan load of 1/20 horsepower where the fan(s) operate continuously at full speed. Must reduce fan motor power by at least 75% during the compressor off-cycle. **Do not use** if any of the following conditions apply: 1) the compressor runs all the time with high duty cycle; 2) the evaporator fan does not run at full speed all the time; 3) the evaporator motor runs on poly-phase power; 4) the evaporator fan motor is not shaded-pole; or 5) evaporator does not use off-cycle or time-off defrost.

### **R-G. Floating Head Pressure Controller**

Contact Ag Efficiency Plus at 800-791-7541 for details.

### **R-I. Infiltration Barrier for Walk-ins (Strip Curtains)**

Must install new strip curtains or plastic swinging doors on doorways of walk-in boxes and refrigerated warehouses. This rebate is not available for replacement of existing strip curtains that have useful life left. Rebate is based on the square footage of the doorway.

### **R-J. Insulation for Bare Suction Lines**

Must insulate bare refrigeration suction lines of 1 5/8 inches or less on existing equipment only. Medium temperature lines require 3/4-inch of flexible closed-cell nitrite rubber, or equivalent insulation, and low temperature lines require 1-inch of the same insulation. Insulation exposed to outside weather must be jacketed (such as with a medium-gauge aluminum jacket) or protected from the weather in some way. Rebate is based on the length, in linear feet, of the insulation installed.

### **R-K. Door Gaskets on Solid Doors**

Must replace a worn gasket on the insulated opaque door of a walk-in or reach-in cooler or freezer. Replacement gaskets must meet the manufacturer's installation specifications, specifically regarding dimensions, materials, attachment method, style, compression, and magnetism. Rebate is based on total door perimeter in linear feet.

### **R-L. Multiplex Compressor System**

Replace inefficient single compressor per line-up system with a high efficiency, multiplex (parallel system). The high efficiency features of this measure include floating head pressure by means of a variable speed fan control and mechanical sub-cooling. In a multiplex system, multiple compressors serve a specific suction group and each suction group serves one or more line-ups having similar temperatures. We recommend an unevenly sized approach. Cannot be used in conjunction with Floating Head Pressure Controller (Measure R-G). Note: Combination high efficiency Multiplex Compressor System with Efficient Condenser (Measure R-L3, R-L4) must meet requirements for multiplex compressor system noted above plus requirements of Oversized Air Cooled Condenser (Measure R-O1) or Oversized Evaporative Condenser (Measure R-O2).

### **R-M. New Reach-in Display Case with Doors (Low and Medium Temperatures)**

Must replace an existing open multi-deck display case with a new high efficiency reach-in unit with standard glass doors with electronically commutated motor (ECM) fan, T-8 lamps and electronic ballast. This measure can be applied to self-contained or remote cases. New display cases are rebated based on their length. New case length must be equal to or shorter than original case.

### **R-N. Night Covers for Display Cases**

Must install a cover on an otherwise open display case to decrease cooling load of the refrigerated case during off hours. The rebate is based on the linear footage of the installed night cover. It is recommended that these film type covers have small, perforated holes to decrease moisture buildup. The cover must be applied for a period of at least six hours in a 24-hour period. Customer should consider the following: using proper compressor capacity modulation mechanisms (such as variable speed drive (VSD) or cylinder un-loader); using evaporator pressure regulator (EPR) and possibly resetting to higher suction temperatures when shields are applied; resizing TVX and resetting suction pressure to a higher value. Consult with the case manufacturer or an authorized representative to determine if installing night covers will impact system performance.

### **R-O. Oversized Condenser**

This measure addresses existing multiplex systems that can benefit from more efficient refrigeration condensers. Must replace existing condenser with an energy efficient unit equipped with several additional control mechanisms. This measure cannot be used in conjunction with Floating Head Pressure Controller (Measure R-G) since it already includes it as part of its required features. It is only applicable to existing multiplex systems and does not apply to those converted from single compressor to multiplex. (For converted, see Measure R-B.) New retrofit air cooled systems should operate at 8°F TD above ambient dry bulb temperature for low temperature and 13°F TD for medium temperature systems with EER of 105 Btu/hr/watt (for the condenser only). Retrofit evap cooled systems should operate at 18°F TD above ambient wet bulb temperature with EER of 240 Btu/hr/watt (condenser). It also includes the use of variable speed drives and variable set point floating head pressure controls.

### **R-P. Replace Reach-in Case w/Doors with High Efficiency Case with Special Doors**

A new high efficiency reach-in display case must replace an existing low temperature self-contained or remote reach-in as shown in the table below. This measure cannot be used in conjunction with Measure R-C.

<b>Existing</b>	<b>Replacement</b>
T-12 lamps, magnetic ballast	T-8 lamps, electronic ballast
Shaded pole (SHP) fan motor	Electronically commutated motor (ECM) fan
Standard glass doors	Low/No anti-sweat glass double-pane doors meeting requirements of Measure R-R

### **R-Q. Retrofit Glass Doors on Open Vertical Display Case**

Contact Ag Efficiency Plus at 800-791-7541 for details.

### **R-R. Special Doors with Low/No Anti-Sweat Heat on Low Temperature Display Cases**

Must replace an existing standard glass door of a low temperature reach-in display case with a special glass door that requires minimum to no anti-sweat heat (ASH). Doors must prevent condensation from occurring within the frame assembly. Total door rail, glass, and frame heater amperage (at 120 volts) cannot exceed 0.39 amps per foot of display case.

Rebate is based on number of doors replaced. This measure cannot be used in conjunction with Measure R-C.

### **R-S. Vending Machine Controller**

Intended for refrigerated vending machines containing only non-perishable bottled and canned beverages. Controller must include a passive infrared occupancy sensor to turn off fluorescent lights and compressor when surrounding area is unoccupied for 15 minutes or longer. Control logic should periodically power up machine at two-hour intervals to maintain product temperature and provide compressor protection. Refurbished vending machines that include this option are eligible.

## **Building Shell**

### **S-A. Cool Roof**

Roof must be flat or "low-slope" where rise is not greater than 2 inches of rise in 12 inches of run. Roof must be located in climate zones 2-15. Building must have electrically or natural gas engine-driven compression cycle or gas-fueled absorption and must not have a radiant barrier between the ceiling and the surface of the roof. Material must be applied over air-conditioned space only. Exposed HVAC ducting is eligible for Cool Roof application. Eligible products are listed on the Cool Savings Program Qualifying Products database at [www.coolroofs.org](http://www.coolroofs.org). Eligible products must have a minimum five-year manufacturer's warranty. Installation contractors must have a valid California contractor's license and must provide a 2-year warranty that must be printed on or attached to the invoice.

### **S-B. Reflective Window Film**

Film must have a minimum five-year manufacturer's warranty. Rebates are not available for windows with northern exposure. Space must be cooled by vapor-compression air conditioner (evaporative-cooled space not eligible). Film must have either a solar heat gain coefficient (SHGC)  $\leq 0.39$  and be applied to clear, single-pane glass, or film can have an SHGC  $\leq 0.47$  and visible transmittance/solar heat gain coefficient (VT/SHGC) ratio  $> 1.3$ . Specification must be documented on the invoice, as well as square footage installed. To convert Shading Coefficient (SC) to SHGC, use the following equation:  $SHGC = SC \times .87$ .

## Heating, Ventilation, Air Conditioning

### H-A. High Volume Low Speed (HVLS) Circulation Fans

Fans must meet or exceed the following minimum specifications:

Fan Size	<i>Minimum Efficiency CFM/Watt at 0" static pressure (inches H<sub>2</sub>O)</i>
16'-24' High Volume Low Speed (HVLS) circulation fans (3-phase required)	125.0

### H-B. Low Volume High Speed Circulation and Exhaust Fans

Fans must meet or exceed the following minimum specifications:

Fan Size	<b>Circulation Fans</b>	<b>Exhaust Fans</b>
	<i>Minimum Efficiency CFM/Watt at 0" static pressure (inches H<sub>2</sub>O)</i>	<i>Minimum Efficiency CFM/Watt at 0.1" static pressure (inches H<sub>2</sub>O)</i>
12" – 14"	8.0	7.0
16" – 18"	9.8	8.5
20" – 22"	10.0	9.0
24" – 26"	14.0	11.9
36"	20.4	16.2
48"	21.9	17.6
50" – 52"	22.5	18.0
54" – 60"	23.0	18.0

Low volume, high speed fans must be tested and have published efficiencies by either BESS (Bioenvironmental and Structural Systems) Laboratory, <http://www.bess.uiuc.edu/>, or Air Movement, and Control Association International, Inc. (AMCA), <http://www.amca.org/>.

### H-C. Heat Lamps

Rated wattage of the heat lamp must be ≤ 125 watts and replace an existing heat lamp with wattage ≥ 150 watts.

### H-D. Heat Pads

Rated wattage of the heat pad must be ≤ 130 watts.

### **H-E. Ventilation Humidistat Controls**

Humidistat control incentives are for application on ventilation fan systems.

### **H-F. Ventilation Thermostat Controls**

Thermostat control incentives are for application on ventilation fan systems.

### **H-H. Advanced Evaporative Cooler**

Must replace an existing, vapor-compression air conditioning system, or the existing compressor must be made inoperative. Must not have "constant bleed" option. No rebate is available for CEC climate zones 1 and 3. Tonnage on rebate form is based on the capacity of the package unit that is being replaced. For evaporative coolers, one equivalent ton of cooling is defined as 1300 cfm of 0.1" Static Pressure. The invoice should contain information describing what is being replaced. An advanced evaporative cooler (AEC) must have a rigid, manufactured evaporative media with a rated saturation effectiveness of 0.85 or better (a natural fiber pad is not allowed - the rigid media is generally 12" thick), and be equipped with water quality management system that provides positive removal of sump water on a regular interval (a bleed system is not allowed).

### **H-I. Package Terminal Air Conditioners and Package Heat Pumps**

Package terminal air conditioners (PTAC) and Package terminal heat pumps (PTHP) are through-the-wall, self contained units and are 2 tons (24,000 Btu/hr) or less. Only those units that have an EER that is 20% higher than the minimum are eligible. Minimum EER is calculated from the following equations:

$$\text{PTAC Min EER} = 10.9 - (0.213 \times \text{_____} + 1,000) \text{ (capacity in Btu/hr*)}$$

$$\text{PTHP Min EER} = 10.8 - (0.213 \times \text{_____} + 1,000) \text{ (capacity in Btu/hr*)}$$

\*If the capacity is less than 7,000 Btu/hr, use 7,000. If the capacity is > 15,000 Btu/hr, use 15,000.

### **H-J. Setback Programmable Thermostat**

Must automatically adjust the temperature setting of your heating and air conditioning system at pre-selected times to make sure energy is consumed only when needed. Must

have automatic setback feature. The system “fan” switch must have an “on” feature that circulates air continuously.

#### **H-K. Variable Speed Drives for HVAC Fans**

These VSD incentives are for fan applications on HVAC distribution systems. The maximum fan size is 100 hp. The installation of a VSD on a HVAC fan is eligible for a rebate only if throttling devices, such as inlet vanes, bypass dampers and throttling valves, are removed or permanently disabled. A 3% impedance choke is recommended.

#### **H-L. Variable Speed Drives for Ventilation Fans**

These VSD incentives are for application on ventilation fan systems. A 3% impedance choke is recommended.