

Motor & Variable Frequency Drive Technologies

Pacific Power provides incentives for many types of energy-efficient technologies. Please read the following sections carefully to ensure that you follow the appropriate steps for securing your incentive. Equipment may be subject to inspection prior to incentive payment.

Incentives for additional measures may be available. For more information about the FinAnswer Express program, eligibility requirements, incentive levels or other general inquiries, contact your local equipment dealer or Pacific Power. You can visit the program website at pacificpower.net/wattsmart and submit your inquiry online, or you can call our energy services hotline at 1-800-222-4335.

GREEN MOTOR REWINDS

Measure description: The quality of the rewind will determine the efficiency of the motor when placed back into service. Motors rewound to their original nominal efficiency values by a certified service center in accordance with procedures established by Green Motors Practices Group™ (GMPG) qualify as GREEN REWINDS. Visit Green Motors at www.greenmotors.org for more information.

Applicability: Retrofit/New Construction/Major Renovation installations are eligible. Green Motor Rewinds that are installed or placed in inventory may qualify for an incentive.

Equipment eligibility: The motor must be an alternating current motor located at a facility served by Pacific Power in the State of California, and must meet all other program terms and conditions. Incentives for Green Motor Rewinds prior to January 19, 2012 are available only for motor sizes between 15 and 500 horsepower (hp). Incentives for Green Motor Rewinds on or after January 19, 2012 are available for motor sizes between 15 and 5,000 hp. To qualify for incentives, the Green Motor Rewind must be without core damage and must be rewound at a GMPG motor service center. Green Motor Rewinds greater than 5,000 hp may be eligible for a custom Energy Efficiency Incentive and will require pre-approval.

Items to submit with application: Incentives for green motor rewinds are provided as a credit on the motor service center invoice by GMPG motor service centers at the time of the motor rewind. Contact Pacific Power or a GMPG motor service center for application details. A list of GMPG motor service centers is provided at www.greenmotors.org/practicing.htm.

Prequalification Required? No. Prequalification is not required for Green Motor Rewinds for motors between 15 and 5,000 hp. Motor service centers should contact Green Motors Practices Group prior to performing rewinds on motors greater than 5,000 hp.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Incentive*</u>
GRMORW	Green Motor Rewinds	\$1 / horsepower

*For GREEN REWINDS, the participating electric motor service center is paid \$2 /horsepower for eligible GREEN REWINDS. A minimum of \$1 /horsepower is paid by the service center to the customer as a credit on the motor rewind invoice. The balance is retained by the service center

ELECTRONICALLY COMMUTATED MOTORS

Measure description: An electronically commutated motor (ECM) is a fractional horsepower direct current (DC) motor used most often in commercial refrigeration applications such as display cases, walk-in coolers/freezers, refrigerated vending machines, and bottle coolers. ECMs can also be used in HVAC applications, primarily as small fan motors for packaged terminal units or in terminal air boxes. ECMs generally replace shaded pole (SP) motors and offer significant energy savings.

Applicability: New construction and retrofit installations that meet eligibility requirements may qualify for incentives via a post-purchase application process.

Equipment eligibility: All ECMs less than or equal to 1 horsepower (hp) in size may qualify for an incentive. Equipment must be purchased and installed, and meet all other program terms and conditions. Incentives are paid based on the rated hp/wattage of the ECM motor, as provided on the manufacturer specification sheet.

Items to submit with application:

1. Dated sales receipt/invoice for the installed equipment.
2. Manufacturer’s equipment specification sheet with motor’s rated hp/wattage
3. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

Prequalification required? No. Prequalification is recommended, but not required to receive incentives. Contact your vendor or Pacific Power for more information.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Customer Incentive</u>
ECMREF	ECM Refrigeration	\$.50 / nameplate watt
ECMHVC	ECM HVAC	\$50 / nameplate hp

NEMA PREMIUM EFFICIENCY MOTORS

Measure description: Premium-efficiency motors are more efficient than standard-efficiency motors.

Applicability: Prior to December 19, 2010, incentives were available for customers who purchased qualifying motors and either installed them or placed them in inventory.

Equipment eligibility: Incentives are not available for NEMA Premium-Efficiency motors purchased on or after December 19, 2010.

VARIABLE FREQUENCY DRIVES (VFD) FOR HVAC FANS AND HVAC PUMPS

Measure Description: Variable Frequency Drives (VFDs) are electronic controls that regulate motor speed and torque, resulting in reduced energy consumption under part load conditions.

Applicability: New construction and retrofit installations on HVAC fans or HVAC pumps where not required by 2008 Building Efficiency Standards (Title 24 2008) that meet eligibility requirements may qualify for incentives via a post-purchase application process.

- **Retrofit Applications:** VFDs must be installed on HVAC fans or HVAC pumps where a variable load is present. Throttling or bypass devices such as inlet vanes, bypass dampers, three-way valves or throttling valves must be removed or permanently disabled prior to applying to qualify for VFD incentives. Incentives are not available for retrofits/replacements of existing VFDs.
- **New Construction/Major Renovation:** Incentives are not available for VFDs installed to comply with the applicable version of the California energy code, which currently requires a VFD on HVAC fans greater than 10 horsepower (hp) in a variable flow system.

Equipment Eligibility: Incentives are available for VFDs less than or equal to 100 hp installed on pumps and fans utilized in HVAC air/water distribution systems. *Eligible* installations for VFDs include any fan motor or pump motor where no VFD was previously installed and where the equipment is part of a system used to heat or cool an occupied space of a facility. VFDs installed in New Construction/Major Renovation that are required by Title 24 2008 are not eligible for incentives. VFDs that are part of process-related systems may be pre-approved for incentives through Energy FinAnswer or as a custom incentive. VFDs that are integral to chillers are not eligible for incentives separate from the chiller’s incentive. Examples of installations eligible through FinAnswer Express can be seen below. Equipment must be purchased and installed, and meet all other program terms and conditions.

<u>Examples of VFDs eligible for incentives through FinAnswer Express: Incentive = \$65/ horsepower</u>	<u>Examples of VFDs not eligible for incentives through FinAnswer Express:</u>
<ul style="list-style-type: none"> • VFD installed as part of a new construction project on a 5 hp fan motor in an air-handling unit. 	<ul style="list-style-type: none"> • VFD installed as part of a new construction project on a 25 hp fan motor in an air-handling unit. (Required by code.)
<ul style="list-style-type: none"> • VFD installed as part of a retrofit project on an existing chilled water circulation pump. 	<ul style="list-style-type: none"> • VFD installed on boiler pump used in a manufacturing process. (Submit to Energy FinAnswer prior to purchase.)

Technical assistance and financial incentives for VFDs larger than 100 hp, or installed on process related or non-HVAC equipment may be available through Pacific Power’s Energy FinAnswer program. For more information about Energy FinAnswer, contact us or your vendor before purchasing your equipment.

Items to submit with application:

1. Dated sales receipt/invoice for the installed equipment.
2. A current copy of the Pacific Power utility bill for the address where the item(s) are installed.

Prequalification Required? No. Prequalification is recommended but not required for eligible installations. Pre-approval is required for VFDs larger than 100 hp or VFD applications other than HVAC fans and HVAC pumps.

<u>Equipment Code</u>	<u>Measure Description</u>	<u>Incentive</u>
VDFAN	VFD Fan	\$65 / horsepower
VDPMP	VFD Pump	\$65 / horsepower