

Easy Upgrades HVAC/Controls Worksheet



Effective December 16, 2010. Please complete this worksheet for retrofit of heating, ventilation, air conditioning equipment and controls. **To qualify, the project must meet the applicable specifications stated on the back of this worksheet.** Your total incentive for each measure will be the quantity multiplied by the per unit incentive ($Q \times I = TI$). When completed, attach this worksheet to your application form.

Note: All projects with an estimated incentive of \$1,000 or greater must receive written preapproval from Idaho Power prior to purchasing or installing the equipment.

Project Name: _____

Replacing	Installing	Quantity (Units)	Incentive (Per Unit)	Total Incentive
Air Conditioning, Heat Pump Units				
H1 Standard PTAC/PTHP unit	PTAC/PTHP unit, min 12 EER	_____ unit	\$50.00	\$ _____
H2 Standard 1–5 ton AC unit	5 ton or less 1-phase AC unit, min 14 SEER	_____ ton	\$25.00	\$ _____
H3 Standard 5 ton or less AC unit	5 ton or less 1-phase AC unit, min 15 SEER	_____ ton	\$50.00	\$ _____
H4 Standard 5 ton or less AC unit	5 ton or less 1-phase AC unit, min 16 SEER	_____ ton	\$75.00	\$ _____
H5 Standard 1–5 ton AC unit	5 ton or less 3-phase AC unit, min 13 SEER	_____ ton	\$50.00	\$ _____
H6 Standard 5 ton or less AC unit	5 ton or less 3-phase AC unit, min 14 SEER	_____ ton	\$75.00	\$ _____
H7 Standard 5 ton or less AC unit	5 ton or less 3-phase AC unit, min 15 SEER	_____ ton	\$100.00	\$ _____
H8 Standard 6–10 ton AC unit	6–10 ton AC unit, min 11.5 EER	_____ ton	\$50.00	\$ _____
H9 Standard 11–19 ton AC unit	11–19 ton AC unit, min 10.8 EER	_____ ton	\$50.00	\$ _____
H10 Standard 20 ton+ AC unit	20 ton or more AC unit, min 10 EER	_____ ton	\$50.00	\$ _____
Economizers				
H11 No prior control	Air-side economizer control addition	_____ ton	\$75.00	\$ _____
H12 No prior control	Water-side economizer control addition	_____ ton	\$75.00	\$ _____
H13 Non-functional economizer	Air-side economizer system repair	_____ unit	\$250.00	\$ _____
Evaporative Coolers/Pre-Coolers				
H14 Standard air cooled AC unit	Pre-cooler added to condenser	_____ ton	\$100.00	\$ _____
H15 Replacing standard AC unit	Retrofit to direct evaporative cooler	_____ ton	\$200.00	\$ _____
H16 Replacing standard AC unit	Retrofit to indirect evaporative cooler	_____ ton	\$300.00	\$ _____
Variable Speed Fans/Pumps (This incentive requires written preapproval from Idaho Power prior to purchasing or installing equipment.)				
H17 Single speed HVAC system fan	Variable speed drive, fan _____ drive hp _____ motor hp	_____ motor hp	\$60.00	\$ _____
H18 Single speed HVAC system pump	Variable speed drive, pump _____ drive hp _____ motor hp	_____ motor hp	\$60.00	\$ _____
Programmable Thermostats				
H19 Manual thermostat	7-day, two-stage setback thermostat	_____ unit	\$40.00	\$ _____
Automated Control Systems				
H20 Manual controls	Energy management control system ¹	_____ ft ²	\$0.30	\$ _____
H21 Automated control system	Control system reprogramming/optimization ²	_____ ft ²	\$0.10	\$ _____
H22 Manual controls	Lodging room occupancy control system	_____ room	\$50.00	\$ _____

Notes: 1) The incentive for measure H20 is capped at \$10,000 per building.
2) The incentive for measure H21 is capped at \$2,500 per building.

HVAC/Controls Total

\$

Specifications for HVAC/Controls Measures

Effective December 16, 2010

Efficient Air Conditioning Units

New air conditioning or heat pump package units and split systems with seasonal energy efficiency ratings (SEER) qualify if they meet the minimums stated on the front of this sheet. Used or reconditioned units are not eligible. The minimums are from the Consortium for Energy Efficiency (CEE) Unitary Air Conditioning Specification, January 2009.

Except for single phase HVAC units between 1 and 5 tons, Tier 1 of the CEE standards applies. Single phase HVAC units, must meet Tier 2 minimums to qualify.

Refer to the CEE specification (www.cee1.org) for minimum qualifications for water cooled equipment and other products not listed on the front.

Packaged Terminal Air Conditioning (PTAC) or Packaged Terminal Heat Pump (PTHP) units with 15,000 BTUH cooling capacity or less are eligible for an incentive when their ARI tested efficiency ratings are 12 EER or more.

Manufacturer's specification sheets for the units must accompany the application.

Economizers

Economizer systems must have differential control and must be configured to allow free-cooling and economizing at outdoor temperatures up to 65°F. New controls installed to meet these requirements are also eligible for the applicable incentive.

Economizers on new HVAC units are only eligible for an incentive where not already required by code.

Manufacturer's specification sheets for economizer equipment and controls must accompany the application.

Economizer repair incentives are for one-time unit repairs. Payments require an itemized invoice of corrections, setting adjustments or other repairs made. The incentive for repairs can not exceed the stated cost on the invoice.

Evaporative Coolers/Pre-Coolers

The pre-cooler incentive applies to air cooled air conditioning package units and split systems with evaporative pre-coolers added to the condenser coils.

The direct and indirect cooling system incentive applies to equipment that replaces a roof-mounted standard direct expansion air conditioning package unit. For these measures, the tonnage on the application is based on the capacity of the unit being replaced.

Installations must comply with manufacturer's guidelines on sizing and air flows. Manufacturer's specification sheets for the equipment must accompany the application.

Variable Speed Fans/Pumps

Variable speed drives (VSDs) for variably-loaded HVAC system fans and pumps can qualify for this incentive. Throttling or bypass devices such as inlet vanes, dampers, three-way valves or throttling valves must be removed or permanently disabled to qualify. Incentives are based on the hp of the motors each VSD controls.

Idaho Power needs to know the location of where the drive(s) will be installed. The Idaho Power meter number or service agreement number serving each drive must be provided.

Motors must be between 5 and 250 horsepower, operating at least 2,000 hours per year and variably-loaded.

Incentives are based on the motor horsepower that each VSD controls. An analysis that shows the motor's loading profile

and manufacturer's specification sheet for the VSDs must accompany the final application.

VSDs must be installed in accordance with the Institute for Electrical and Electronics Engineers (IEEE) Standard 519. Any throttling devices or other similar control devices used prior must be removed or permanently disabled when the VSD is installed to qualify for an incentive.

Programmable Thermostats

This incentive applies to commercial grade programmable setback thermostats that replace non-programmable thermostats. Thermostat replacements must match the number of stages available for each unit being controlled. A two stage-unit that also uses the thermostat to control the economizer requires a three-stage thermostat. Commercial grade three-stage thermostats are recommended where heat pumps are used. Thermostat must have 7-day programmability and battery back-up.

Manufacturer's specification sheets for the thermostats must accompany the application.

Automated Control Systems

An Energy Management System (EMS) controls heating, ventilation and air conditioning equipment with manual controls prior. This applies only to fully-conditioned interior space served by the HVAC equipment it controls. EMS systems that control lighting, refrigeration and other energy-using equipment may also qualify. However, when applied to control lighting, the incentive for automated lighting controls cannot be claimed for the same project.

Control systems must be configured in a manner that maps all terminal device physical inputs and outputs back to the global controller.

Control system also must be configured in a manner that maps and allows terminal device set points to be overridden and controlled through programming executive from the global controller. Terminal device inputs, outputs, and set points must be shown on control graphics. Qualifying systems must include at least two optimization strategies listed below in the bulleted items under Existing EMS controls section. A summary of the EMS control strategy must accompany the application. In spite of the building area affected, this incentive is limited to \$10,000 per building and cannot be more than the cost of the control equipment and labor.

Existing EMS controls that require reprogramming or other retrocommissioning to optimize their operation are eligible. EMS optimization incentive is limited to a one-time payment. Qualifying projects must include at least one of the following optimization strategies:

- Reset of temperature or pressure to meet load
- Automatic time limits placed on manual overrides
- Optimal start time or demand limiting start sequencing
- Occupancy sensing control of terminal devices
- Demand controlled ventilation
- Incorporation of lighting control
- VFD-driven equipment configured to match load

Other optimization measures *may* receive an incentive but must be submitted for preapproval and approved by Idaho Power prior to implementation.

Payments require an itemized invoice of corrections, setting adjustments or other repairs made. The incentive for control optimization is limited to \$2,500 and cannot exceed the stated cost on the invoice (internal labor costs for maintenance work is not eligible).

Lodging room AC occupancy control incentives apply to any "smart" system that can sense when the room is unoccupied and turns the room HVAC unit off (or sets it back) to reduce unnecessary energy use.