

Florida Power & Light Company

Business Heating Ventilation & Air Conditioning ("HVAC") Program Standards

Effective: November 9, 2015

FPL Business HVAC Program Standards

Table of Contents

Eligibility Requirements - Chiller.....	2
Rebate Amount and Reimbursement Processing - Chiller.....	2
Eligibility Requirements – Direct Expansion (“DX”).....	3
Rebate Amount and Reimbursement Processing – DX	3
Eligibility Requirements– Energy Recovery Ventilation (“ERV”)	4
Rebate Amount and Reimbursement Processing – ERV	5
Eligibility Requirements– Demand Control Ventilation (“DCV”).....	5
Rebate Amount and Reimbursement Processing – DCV	6
Eligibility Requirements – Thermal Energy Storage (“TES”)	7
Rebate Amount and Reimbursement Processing – TES	8
Reporting Requirements.....	9
Disclaimers	9

FPL Business HVAC Program Standards

Program Objective

Encourage customers to install electric high-efficiency Business Heating Ventilation and Air Conditioning (“HVAC”) systems.

Eligibility Requirements - Chiller

Customer must:

- Have an active FPL business account.
- Select a chiller that meets all equipment specifications.
- Use the equipment to air condition a facility or process load.
- Not use the chiller as a backup or emergency unit that is not part of the normal operational sequence.
- Select, verify, and hire a qualified, licensed Contractor to perform the installation work.
 - Governmental entities, including local, state and federal agencies, may, with FPL’s pre-approval, perform installations themselves provided they comply with all other Program Standards requirements.

Chiller must reflect the following specifications:

- Equipment must exceed Florida Building Code requirements as specified by FPL.
 - Air or water cooled, Path A or Path B.
- Certification required by manufacturer to latest release of AHRI Standard 550/590.
- Chilled water rated at 44°F leaving temperature with flow rate at 2.4 gpm per ton.
- Water cooled condensers rated at return temperatures of 85°F with flow rate at 3.0 gpm per ton.
- Air cooled condensers rated at ambient air temperature 95°F.
- Operate during FPL’s seasonal summer on-peak periods (3:00 p.m. to 6:00 p.m. weekdays from June 1 through September 30).
- New (i.e., cannot be refurbished, previously installed or used) unless pre-approved by FPL.

Rebate Amount and Reimbursement Processing - Chiller

Rebate Amount

- \$160 per Summer kW saved.

Reimbursement Processing

- Documentation required for rebate processing:
 - FPL Chiller Rebate Certificate signed by the customer and then FPL.
 - Chiller performance data at AHRI standard test conditions.
 - The full load efficiency of the chiller, in kilowatts per ton, will be used to determine the rebate, and will be rounded to the nearest two decimal places.
 - A copy of the equipment invoice, or schedule of values, or purchase order.
- All rebate certificates must be received by FPL for processing by the deadline specified on the rebate certificate. Approval for any exception must be obtained from FPL.
- For the sole purpose of ensuring program compliance in order to issue the rebate, FPL reserves the right to verify any installation and will be the sole determiner of whether the requirements of these Program Standards have been met. Customer must allow access for this purpose.

FPL Business HVAC Program Standards

Eligibility Requirements – Direct Expansion (“DX”)

Customer must:

- Have an active FPL business account.
- Select a DX that meets all equipment specifications.
- Use the equipment to air condition a facility or process load.
- Not use the DX as a backup or emergency unit that is not part of the normal operational sequence.
- Select, verify, and hire a qualified, licensed Contractor to perform the installation work.
 - Governmental entities, including local, state and federal agencies, may, with FPL’s pre-approval, perform installations themselves provided they comply with all other Program Standards requirements.
 - Self-installation for non-governmental customers is only permitted for package terminal air-conditioners and heat pumps (“PTAC/PTHP”).

DX systems must reflect the following specifications:

- Equipment must exceed Florida Building Code requirements as specified by FPL.
 - Air or water cooled air conditioners (split system & packaged) and condensing units.
 - Evaporative cooled air conditioners (split system & packaged) and condensing units.
 - Air cooled heat pump unitary and applied (split system & packaged).
 - Water source heat pump unitary and applied (water to air & water to water).
 - Air cooled packaged terminal air conditions and heat pumps (standard size).
 - Air cooled single package vertical air conditioners and heat pumps.
 - Air cooled variable refrigerant flow air conditioners (split system & packaged) and heat pumps.
 - Water source variable refrigerant flow unitary & applied heat pumps.
 - Air cooled computer room units.
 - Water cooled or glycol cooled computer room units (with & w/o economizer).
- Operate during FPL’s seasonal summer on-peak periods (3:00 p.m. to 6:00 p.m. weekdays from June 1 through September 30).
- New (i.e., cannot be refurbished, previously installed or used) unless pre-approved by FPL.

Rebate Amount and Reimbursement Processing – DX

Rebate Amount

- \$165 per Summer kW saved.

FPL Business HVAC Program Standards

Reimbursement Processing

- Documentation required for rebate processing:
 - FPL DX Rebate Certificate signed by the customer and then FPL.
 - AHRI or AHRI/ISO certification.
 - Manufacturer verified specifications shall be provided for any special class/size of HVAC equipment not AHRI/ISO certified or for any HVAC equipment model numbers with minor (non-energy) variations from AHRI/ISO listings.
 - The Seasonal Energy Efficiency Ratio (“SEER”) will be used to determine rebate for SEER rated split system, packaged, and multi-split air conditioners and heat pumps less than 65 kBTUH, and will be rounded to the nearest decimal place.
 - The Energy Efficiency Ratio (“EER”) will be used to determine rebate for air conditioner and heat pumps (except SEER rated and computer room equipment) and will be rounded to the nearest one decimal place.
 - The Sensible Coefficient of Performance (“SCOP”) will be used to determine rebate of computer room air conditioners, and will be rounded to the nearest two decimal places.
 - A copy of the equipment invoice, or schedule of values, or purchase order.
- All rebate certificates must be received by FPL for processing by the deadline specified on the rebate certificate. Approval for any exception must be obtained from FPL.
- For the sole purpose of ensuring program compliance in order to issue the rebate, FPL reserves the right to verify any installation and will be the sole determiner of whether the requirements of these Program Standards have been met. Customer must allow access for this purpose.

Eligibility Requirements– Energy Recovery Ventilation (“ERV”)

Customer must:

- Have an active FPL business account.
- Select an ERV that meets all equipment specifications.
- Use the equipment to air condition a facility.
- Select, verify, and hire a qualified, licensed Contractor to perform the installation work.
 - Governmental entities, including local, state and federal agencies, may, with FPL’s pre-approval, perform installations themselves provided they comply with all other Program Standards requirements.

ERV systems must reflect the following specifications:

- Equipment must meet or exceed Florida Building Code requirements as specified by FPL.
 - Enthalpy wheel or fixed plate type.
- Listed in AHRI’s current Standard 1060 Certified Directory for Air-to-Air Energy Recovery Ventilation Equipment.
- Actual equipment airflow and AHRI’s listed Nominal Airflow capacity.
- The AHRI Net Total Thermal Effectiveness for the cooling condition must be 50% or greater.
- A copy of air flow design submittal for the ERV must be received by FPL prior to rebate payment processing.
- Operate during FPL’s seasonal summer on–peak periods (3:00 p.m. to 6:00 p.m. weekdays from June 1 through September 30).
- New (i.e., cannot be refurbished, previously installed or used) unless pre-approved by FPL.

FPL Business HVAC Program Standards

Rebate Amount and Reimbursement Processing – ERV

Rebate Amount

- \$1,250 per Summer kW saved.

Reimbursement Processing

- Documentation required for rebate processing:
 - FPL ERV Rebate Certificate signed by the customer and then FPL.
 - ERV performance data with AHRI Certificate Number.
 - The airflow capacity for rebate calculations shall be the actual exhaust air flow or outside air flow, whichever is least, as specified in the ERV equipment specifications.
 - AHRI's 100% Nominal Airflow capacity will be used for the airflow rebate calculations if actual air flow exceeds AHRI's listed 100% Nominal Airflow.
 - The Net Total Thermal Effectiveness from AHRI's 75% Airflow Conditions shall be used if ERV equipment actual outside or exhaust air flow specifications are 75% or less of AHRI Nominal Airflow capacity.
 - Equipment Test and Balance Report (optional if needed).
 - A copy of the equipment invoice, or schedule of values, or purchase order.
- All rebate certificates must be received by FPL for processing by the deadline specified on the rebate certificate. Approval for any exception must be obtained from FPL.
- For the sole purpose of ensuring program compliance in order to issue the rebate, FPL reserves the right to verify any installation and will be the sole determiner of whether the requirements of these Program Standards have been met. Customer must allow access for this purpose.

Eligibility Requirements– Demand Control Ventilation (“DCV”)

Customer must:

- Have an active FPL business account.
- Select a DCV that meets all equipment specifications.
- Select, verify, and hire a qualified, licensed Contractor to perform the installation work.
 - Governmental entities, including local, state and federal agencies, may, with FPL's pre-approval, perform installations themselves provided they comply with all other Program Standards requirements.

DCV systems must reflect the following specifications:

- Equipment must meet or exceed Florida Building Code requirements as specified by FPL.
 - DCV sensors and controls for HVAC systems or kitchen hood systems.
- HVAC Systems
 - DCV system must be designed to reduce the outside air flows for a facility at low occupancy, but not be less than required by all government statutes, codes, ordinances, and accepted engineering practices.
 - The DCV system shall modulate the outside air flow based on air flow measurements and DCV sensor readings. DCV sensors are typically required for each common air conditioned zone and meeting room.
 - Balance the outside air flows with exhaust flows for proper building pressurization at all load and occupancy conditions.

FPL Business HVAC Program Standards

- Kitchen Hoods
 - The DCV system shall modulate the exhaust and make up airflows based on sensor readings and through the application of variable speed fans.
 - Temperature, smoke or steam generation sensors are required for each hood.
- Operate during FPL's seasonal summer on-peak periods (3:00 p.m. to 6:00 p.m. weekdays from June 1 through September 30).
- New (i.e., cannot be refurbished, previously installed or used) unless pre-approved by FPL.

Rebate Amount and Reimbursement Processing – DCV

Rebate Amount

- \$2,000 per Summer kW saved.

Reimbursement Processing

- Documentation required for rebate processing:
 - FPL DCV Rebate Certificate signed by the customer and then FPL.
 - Mechanical drawings, control diagrams, and sequence of operation for the DCV system.
 - Equipment schedules pertinent to the DCV system including fans, drives, and damper equipment.
 - Outside/exhaust air calculations.
 - Location of the occupancy sensors/air flow monitoring equipment.
 - For kitchen DCV a copy of the hood manufacturer specifications listing airflows of the exhaust and make-up air fans must be submitted. When not available, a copy of the Test and Balance Report showing both exhaust and make-up airflows for the fans can be substituted for the hood manufacturer specifications.
 - A copy of the equipment invoice, or schedule of values, or purchase order.
- The rebate is based on the number of DCV sensors for HVAC system applications and kitchen hood exhaust air flow for kitchen hood applications.
- All rebate certificates must be received by FPL for processing by the deadline specified on the rebate certificate. Approval for any exception must be obtained from FPL.
- For the sole purpose of ensuring program compliance in order to issue the rebate, FPL reserves the right to verify any installation and will be the sole determiner of whether the requirements of these Program Standards have been met. Customer must allow access for this purpose.

FPL Business HVAC Program Standards

Eligibility Requirements – Thermal Energy Storage (“TES”)

Customer must:

- Have an active FPL business account.
- Select a TES that meets all equipment specifications.
- Use the equipment to air condition a facility or process load.
- Have a facility or process cooling load during FPL's seasonal summer on-peak periods (3 p.m. to 6 p.m. weekdays from June 1 through September 30).
- Have existing TES tank(s) 10 years old or older that are in need of replacement or refurbishment as determined by a Florida-registered Professional Engineer (“PE”) to qualify for the replacement or refurbishment rebate.
- Request a pre-approved FPL TES Rebate Certificate with the following documentation:
 - A 24-hour seasonal design summer day hourly cooling load profile signed and sealed by a Florida-registered PE.
 - A thermal storage tank vendor supplied hourly discharge/charge temperatures and flow data using the PE's sealed peak hourly seasonal design summer loads.
- Select, verify, and hire a qualified, licensed Contractor to perform the installation work.
 - Governmental entities, including local, state and federal agencies, may, with FPL's pre-approval, perform installations themselves provided they comply with all other Program Standards requirements.

TES systems must reflect the following specifications:

- Equipment must meet or exceed Florida Building Code requirements as specified by FPL.
- New (i.e., cannot be refurbished, previously installed or used) unless pre-approved by FPL.
- Tanks must be warranted to be free from defects in materials and workmanship for five (5) years from the completion of the installation. Warranty must include replacement parts and labor.
- New TES System
 - TES shall be designed to shift all or part of the design air conditioning load, refrigeration load, or industrial cooling load from FPL's seasonal summer on-peak periods (3:00 p.m. to 6:00 p.m. weekdays from June 1 through September 30).
 - TES system recharge shall not occur during the hours of 6:00 p.m. to 9:00 p.m. on weekdays from April 1 through October 31, and from 10:00 a.m. to 6:00 p.m. on weekdays from November 1 through March 31.
 - The total tonnage removed and kW shifted from FPL's seasonal summer on-peak period must be determined by a building design day 24-hour cooling load profile using an industry standard hourly analysis program such as those provided by the U.S. Department of Energy, Carrier, or Trane.
 - Real time cooling loads (hourly tons) or plant kW (converted to hourly tons) is also acceptable as long as calibrated instruments are used, and it includes data from FPL's seasonal summer months (June 1 through September 30).
 - Apply the appropriate TES system design day 24-hour load profile necessary to satisfy the cooling load profile above for each month of the year.
 - The tonnage removed is then calculated by subtracting the maximum value of the TES cooling equipment load profile from the maximum value of the building load profile during FPL's seasonal summer on-peak period.

FPL Business HVAC Program Standards

- Existing TES System Expansion
 - TES shall be designed to shift all or part of the design air conditioning load, refrigeration load, or industrial cooling load from FPL's seasonal summer on-peak periods (3:00 p.m. to 6:00 p.m. weekdays from June 1 through September 30). This is only the load supplied by the cooling equipment, not the storage, during this period.
 - TES system recharge shall not occur during the hours of 6:00 p.m. to 9:00 p.m. on weekdays from April 1 through October 31, and from 10:00 a.m. to 6:00 p.m. on weekdays from November 1 through March 31.
 - The total tonnage removed and kW shifted from FPL's seasonal summer on-peak period must be determined by a building design day 24-hour cooling load profile using an industry standard hourly analysis program such as those provided by the U.S. Department of Energy, Carrier, or Trane.
 - Real time cooling loads (hourly tons) or plant kW (converted to hourly tons) is also acceptable as long as calibrated instruments are used, and it includes data from FPL's seasonal summer months (June 1 through September 30).
 - Apply the appropriate TES system design day 24-hour load profile necessary to satisfy the cooling load profile above for each month of the year.
 - The tonnage removed is then calculated by subtracting the maximum value of the existing TES cooling equipment peak hourly shifted load from the maximum value of the proposed TES cooling equipment peak hourly shifted load during FPL's seasonal summer on-peak period.

Rebate Amount and Reimbursement Processing – TES

Rebate Amount (per Summer kW saved)

- New TES Systems \$600
- Replacement TES Tank(s) \$500
- Refurbished TES Tank(s) \$200

Reimbursement Processing

- Documentation required for rebate processing:
 - The pre-approved FPL TES Rebate Certificate signed by the customer and then FPL.
 - Required documents may include design drawings, 24-hour loads, original input data files for load program, schematic diagrams showing fluid flows, pipes, control valves, heat exchangers, etc., and hourly design day operating sequences.
 - A letter signed by a Florida-registered PE stating that the TES system is operating as designed.
 - A copy of the equipment invoice, or schedule of values, or purchase order.
 - A 24-hour seasonal design summer day hourly cooling load profile signed and sealed by a Florida-registered PE.
 - A thermal storage tank vendor supplied hourly discharge/charge temperatures and flow data using the engineer's sealed peak hourly seasonal design summer loads.
- Backup chillers and chiller capacity operating during summer on-peak periods are not to be used in the TES rebate calculations.
- Demonstration of consistent shift of cooling loads for one billing cycle.
- Additional documentation if applying for rebates for replacement or refurbishment of existing TES tank(s):
 - Must show proof of installation date.
 - A letter signed by a Florida-registered PE stating the reason(s) that the TES tank(s) is in need of replacement or refurbishment.

FPL Business HVAC Program Standards

- A 24-hour seasonal design summer day hourly cooling load profile signed and sealed by a Florida-registered Professional Engineer.
- All rebate certificates must be received by FPL for processing by the deadline specified on the rebate certificate. Approval for any exception must be obtained from FPL.
- For the sole purpose of ensuring program compliance in order to issue the rebate, FPL reserves the right to verify any installation and will be the sole determiner of whether the requirements of these Program Standards have been met. Customer must allow access for this purpose.

Reporting Requirements

Program costs will be reported to the Commission in FPL's Energy Conservation Cost Recovery ("ECCR") True-Up and Projection filings. Additionally, the program achievements will be reported in the Demand-Side Management ("DSM") Annual Report.

Disclaimers

The issuance of a rebate by FPL under the Program shall not be considered or relied upon by the customer to be confirmation that: (i) the customer has selected the proper HVAC system; and/or (ii) that any of the underlying work performed by the contractor was done properly pursuant to the manufacturer recommendations and specifications, building codes, other applicable laws, industry standards or individual contract requirements. FPL does not participate in or approve the selection of the HVAC system and FPL does not manage or provide oversight of the work performed by the contractor selected by the customer. It is the sole responsibility of the customer to investigate and select an HVAC system that is appropriate for their specific application, perform their own due diligence in selecting the contractor, manage the contractor they select to perform the work and to take the necessary precautions they deem prudent to ensure the equipment, materials and work meets their expectations.

FPL does not provide any supervision, control or instructions to contractor regarding the means and methods for performing any work that might be eligible for a rebate. This is entirely the responsibility of the contractor and likewise the sole responsibility of the customer to manage and inspect the work performed by the contractor. FPL provides no guaranty or warranty regarding the amount of energy savings to be expected, the equipment and/or the work provided by the contractor.