

RESOLUTION 2011 - 369

RESOLUTION BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA AUTHORIZING THE COUNTY ADMINISTRATOR OR HIS DESIGNEE TO APPROVE THE TERMS AND CONDITIONS AND EXECUTE THE BUSINESS HVAC PROGRAM THERMAL ENERGY STORAGE INSTALLATION AGREEMENT AND FEASIBILITY/POST COMMISSIONING STUDIES

WHEREAS, on December 6, 2011, the Board of County Commissioners of St. Johns County, Florida (the "Board"), adopted Resolution 2011-354 authorizing the County Administrator or his designee to approve the terms and conditions and execute the guaranteed energy performance savings contract with Trane U.S. Inc. (the "Trane Contract"); and

WHEREAS, it is necessary for the Board to enter into a Business HVAC Program Thermal Energy Storage Installation Agreement And Feasibility/Post Commissioning Studies with FPL in order to achieve certain energy rebates related to energy performance savings contract retrofits.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, AS FOLLOWS:

Section 1. Incorporation of Recitals.

The above Recitals are hereby incorporated into the body of this Resolution, and are adopted as Findings of Fact.

Section 2. Authority to Approve.

The Board of County Commissioners hereby authorizes the County Administrator or his designee to approve the terms and conditions and execute the Business HVAC Program Thermal Energy Storage Installation Agreement and Feasibility/Post Commissioning Studies between St. John County BCC and FPL.

Section 3. Correction of Errors.


To the extent that there are typographical, administrative or scrivener's errors that do not change the tone, tenor or concept of this Resolution, then this Resolution may be revised without further action by the Board of County Commissioners.

Section 4. Effective Date.

This Resolution shall be effective upon its execution.

PASSED AND ADOPTED by the Board of County Commissioners of St. Johns County, State of Florida, and this 20th day of December 2011.

**BOARD OF COUNTY COMMISSIONERS
OF ST. JOHNS COUNTY, FLORIDA**

By: 
Mark P. Miner, Chairman

ATTEST: CHERYL STRICKLAND, CLERK

By: 
Deputy Clerk

RENDITION DATE 12/20/11



- 2.2 Assure that the Study shall bear the signature and seal of the Professional Engineer responsible for the Study and the name, address, and telephone number of the consulting firm producing the FS or PCS.
- 2.3 Assure that the FS follows FPL's Feasibility Study Requirements shown in Section A (attached hereto and incorporated into this Agreement) or PCS follows Post Commissioning Study Requirements shown in Section D, attached hereto and incorporated into this Agreement.
- 2.4 Deliver to FPL two legible, bound copies of the FS or PCS to A. G. Russillo, Jr. of FPL within 90 days of this Agreement.
- 2.5 Inform Brian Blenis of FPL, within 60 days of this Agreement whether or not it is going to commission a Feasibility Study or Post Commissioning Study .

3. METHOD FEASIBILITY STUDY FUNDING:

A payment of \$2,500 shall be made to the Customer or Customer Designee after two copies of the FS or PCS are delivered to the FPL representative named in Section 2.4 of this Agreement, and the FPL representative approves this FS or PCS as to form and substance. Such approval is not to be unreasonably withheld.

SHOULD CUSTOMER ELECT TO PURSUE THE INSTALLATION OF AN OFF-PEAK COOLING SYSTEM UNDER FPL's BUSINESS THERMAL ENERGY STORAGE PROGRAM THEN:

4. FPL AGREES TO:

- 4.1 Provide an incentive to the Customer or Customer Designee in the amount indicated in the Total Energy Savings (TES) Incentive Table in the Bus HVAC Program Standards for kilowatt (kw) shifted from FPL's summer on-peak period. The tonnage removed and kw shifted from FPL's summer on-peak period will be determined pursuant to Section 6.1 of this Agreement. This incentive amount may be adjusted to agree with the actual TES system installed. Payment will be made pursuant to Section 6.2 of this Agreement.
- 4.2 Provide an incentive payment in the amount indicated in the TES Incentive Table in the Bus HVAC Program Standards for commissioning fees. The payment will be awarded to the Customer or Customer Designee upon verification of proper operation, for the TES system located at the address shown in Section 2.1 of this Agreement, by an FPL representative under FPL's HVAC Program.
- 4.3 The sum of the incentives provided in Sections 4.1 and 4.2 of this Agreement shall not exceed the actual cost of the TES system installed.

5. CUSTOMER AGREES TO:

- 5.1 Demonstrate to FPL within 180 days of receipt of FPL's FS funding payment, if Customer conducted a FS, or within 180 days of execution of this Agreement, if Customer did not conduct a FS, its commitment to install an off-peak cooling system by providing FPL with a written commitment to purchase said system.
- 5.2 Install an off-peak cooling system at the location given in Section 2.1 of this Agreement, which, during FPL's on-peak time period, will supply all or a portion of the cooling needs through a permanent storage system electrically charged at times other than FPL's on-peak time period.

Thermal storage tanks must be warranted by manufacturer 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.

- 5.3 Allow FPL to review final TES system design before commissioning of TES installation.
- 5.4 Complete TES system final design subject to the Minimum TES Design Requirements shown in Section B of this Agreement.
- 5.5 Commence operation of the off-peak cooling system within two years from the date of execution of this Agreement and continue operation of the off-peak cooling system for a minimum of five (5) years from the date operation commences, and purchase electricity from FPL for the off-peak cooling system.

A Customer receiving an incentive shall repay the incentive to FPL if for any reason the Customer removes the equipment or ceases operation and maintenance of the equipment during the first five (5) years of operation. However, if the Customer is the owner of or is operating the facility on behalf of an owner, cessation of the operation of the equipment due to the owner going out of business shall not give rise to an obligation to repay the incentive. FPL shall provide written notice to the Customer of the repayment amount. Any repayment as described in the "Customer Repayment of Incentive" section of this Agreement made by the Customer shall be credited to the ECCR Clause.

- 5.6 Allow FPL personnel access at reasonable times to verify and monitor the off-peak cooling system to ensure it is being charged during off-peak hours.

- 5.7 (a) Allow FPL to collect performance data on the off-peak cooling system.
- (b) Provide reasonable access to Chiller Plant and Storage facilities for the purpose of monitoring.
- (c) Provide access to one of the Customer's telephone lines for the purpose of transmitting and receiving performance data.
- 5.8 Install an alarm system which notifies customer of any condition in which subsequent on-peak or non-optimized operation occurs. Parameters which could be monitored include: refrigerant pressure, entering and leaving storage temperatures, thermal storage charge levels, chiller loads, chilled water temperature(s), or other critical system operating parameters.
- 5.9 All TES systems require commissioning by a Florida Professional Engineer and the issuance of a Commissioning Report to FPL subject to minimum requirements shown in Section C, attached hereto and incorporated into this Agreement.

6. INCENTIVE DETERMINATION & PAYMENT:

- 6.1 The total tonnage removed and kw shifted from FPL's summer on-peak period (hereafter referred to as "tonnage removed and kw shifted") must be determined as follows:
- i) Determine the 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 Corporation or Trane Corporation.
 - ii) Apply the appropriate TES chiller system design hot day 24 hour load profile necessary to satisfy the cooling load profile above for each month of the year.
 - iii) The tonnage removed is then calculated by subtracting the maximum value of the TES chiller load profile (ii) from the maximum value of the building load profile (i) during FPL's summer on-peak period.
 - iv) The kw shifted is calculated by multiplying the tons removed times the appropriate table conversion factor (kw/ton) for chiller type & size.

If Customer currently uses TES to satisfy its building's cooling requirements, and is adding more usable storage and/or chiller capacity, the tonnage removed will be calculated as follows:

- iv) Determine the maximum tonnage supplied by the existing TES system's chiller during FPL's on-peak period. (Note: This is only the load supplied by the chiller, not the storage, during this period.)

- v) Apply the appropriate proposed TES chiller system 24 hour load profile necessary to satisfy the cooling load profile above.
- v) The tonnage removed is then calculated by subtracting the maximum value of the proposed TES chiller load profile (v) from the maximum value of the existing TES chiller load profile (iv) during FPL's on-peak period.
- vi) The kw shifted is calculated by multiplying the tons removed times the appropriate table conversion factor (kw/ton) for chiller type & size.

6.2 Incentive payment may be made at completion of equipment installation or based on the following schedule:

- 50% payment at 50% completed construction (FPL verification required)
- 50% payment plus commissioning payment at 100% completed construction (FPL final payment verification requires the following : (1) TES system to demonstrate the consistent shift of projected cooling loads for one billing cycle and (2) commissioning report completed by a Florida Registered Professional Engineer and accepted by FPL).

7. CUSTOMER ACKNOWLEDGES THAT:

- 7.1 This Agreement is an incentive commitment on FPL part for only the facility identified in Section 2.1 of this Agreement.
- 7.2 FPL is not committed to future projects or expansion of this project, under the terms of the Agreement. Future commitments are subject to availability of funds, program rules and requirements in effect at that time.
- 7.3 Participation in this program does not exclude Customer from participating in any of FPL's other Marketing Programs.
- 7.4 In the case of a retrofit, the electrical power to the facility located at the site described in Section 2.1 of this Agreement must be supplied solely by FPL service through a permanent metering arrangement.
- 7.5 All manufacturers of TES systems must be pre-approved by FPL to qualify for FPL's program.

8. TORT LIABILITY

Customer shall have the liability provided by law for its torts. Actions at law against Customer to recover money damages for injury or loss of property, personal injury or death caused by negligent or wrongful acts or omissions may be prosecuted pursuant to Section 768.28, Florida Statutes.

9. PEAK PERIODS:

FPL's on-peak time period shall be that period defined in the existing or any subsequent Time-of-Use (TOU) Rate Tariff on file with the Florida Public Service Commission. The current on-peak time periods are defined as follows:

On-Peak: November 1 through March 31: Mondays through Fridays during the hours from 6:00 am to 10:00 am and 6:00 pm to 10:00 pm excluding Thanksgiving Day, Christmas Day, and New Year's Day.

April 1 through October 31: Mondays through Fridays during the hours from 12:00 noon to 9:00 pm excluding Memorial Day, Independence Day, and Labor Day.

Off-Peak: All other hours.

10. AMENDMENTS TO THIS AGREEMENT

FPL and Customer acknowledge that this Agreement constitutes the complete agreement and understanding of the parties.

FPL and Customer further acknowledge that any change, amendment, modification, revision, or extension of this Agreement shall be in writing, and shall be executed by duly authorized representatives of each party.

11. CAPTIONS

The captions and headings in this Agreement are for convenience only and do not define, limit, or describe the scope or intent of any sections or subsections of this Agreement.

12. SEVERABILITY

If any word, phrase, sentence, part, subsection, section, or other portion of this Agreement, or any application thereof, to any person, or circumstance is declared void, unconstitutional, or invalid for any reason, then such word, phrase, sentence, part, subsection, other portion, or the proscribed application thereof, shall be severable, and the remaining portions of this Agreement, and all applications thereof, not having been declared void, unconstitutional, or invalid shall remain in full force, and effect.

13. AUTHORITY TO EXECUTE

Each party covenants to the other party that it has the lawful authority to enter into this Agreement and has authorized the execution of this Agreement by the duly party's authorized representative.

IN WITNESS THEREOF, FPL and Customer have executed this Agreement this _____ day of _____, 20____.

CUSTOMER

By _____
(Customer Representative)

Print Name _____

FPL Account No. 76939-07557 _____

Tax Identification No. 59-6000825 _____

FLORIDA POWER & LIGHT

By _____
FPL HVAC Specialist

By _____
FPL C/I Account Manager

By _____
FPL C/I Regional Manager

FPL Job # _____

Section A

Minimum Feasibility Study Requirements

1. The study must be based on standard engineering principles and be performed by a Professional Engineer licensed and insured in the State of Florida.
2. The TES system must be designed to provide storage to serve the cooling or industrial process needs of the building during FPL's peak demand period. The summer peak demand period is 12:00 noon to 9:00 pm Monday through Friday, April 1 through October 31. The winter peak demand period is 6:00 am to 10:00 am and 6:00 pm to 10:00 pm Monday through Friday, November 1 through March 31.
3. The study must compare the cooling load shapes and Life Cycle Costs (including annual electricity, other O&M, and capital costs) of a conventional cooling system to the TES system. Operation of the TES system studied shall include full storage, and may include partial storage, and demand limiting cooling strategies.
4. The hourly cooling load profiles for the various cooling options must be developed with an industry standard hourly analysis such as those provided by the US Department of Energy, Carrier Corporation, or Trane Corporation.
5. The study must include the proposed TES system's chiller size (tonnage), storage size (ton-hours) and a TES system schematic. Required documents include design loads, original input data files for load program (optional) , schematic diagrams showing fluid flows, pipes, control valves, heat exchangers, etc, and hourly design day operating sequences.
6. The study is subject to review by an FPL representative at any time up to and including the completion of the study on FPL's request.
7. FPL pre-approval is required prior to application for a feasibility study.

Section B

Minimum TES System Design Requirements

1. The design must be based on standard engineering principles and be performed by a Professional Engineer licensed and insured in the state of Florida.
2. The TES system must be designed to provide storage to serve the cooling needs of the building during FPL's peak demand period. The summer peak demand period is 12:00 noon to 9:00 pm Monday through Friday, April 1 through October 31. The winter peak demand period is 6:00 am to 10:00 am and 6:00 pm to 10:00 pm Monday through Friday, November 1 through March 31.
3. The hourly cooling load profiles for the various cooling options must be developed with an industry standard hourly analysis program such as those provided by the US Department of Energy, Carrier Corporation, or Trane Corporation.
4. Customer shall provide the FPL Representative with full design calculations prior to the installation of the TES system. These calculations are subject to review and acceptance by the FPL Representative. Required documents include design loads, original input data files for load program(optional), schematic diagrams showing fluid flows, pipes, control valves, heat exchangers, etc, and hourly design day operating sequences.

5. Customer shall submit a full set of Contract Documents to the FPL Representative. These Contract Documents are subject to review and acceptance by the FPL Representative.

Section C

Minimum TES Commissioning Report Requirements

1. The commissioning report must be based on standard engineering principles and be performed by a Professional Engineer licensed and insured in the state of Florida.
2. The commissioning report must show that the TES system operates as designed to provide storage to serve the cooling needs of the building during FPL's peak demand period. The summer peak demand period is 12:00 noon to 9:00 pm Monday through Friday, April 1 through October 31. The winter peak demand period is 6:00 am to 10:00 am and 6:00 pm to 10:00 pm Monday through Friday, November 1 through March 31.
3. The commissioning report must indicate the monitored hourly cooling loads and supply/return temperatures of the secondary flows that are delivered to the customers coils during the on-peak periods.
4. The commissioning report must verify that the Customer's energy management system is programmed to provide the cooling load shift of the TES system as originally designed.
5. The commissioning report is subject to review and acceptance by the FPL Representative.
6. The commissioning report must be conducted in accordance with ASHRAE Standard 150.

Section D

Minimum TES Post Commissioning Study Requirements

1. TES systems that have received FPL incentive(s) and been in operation for a period of one year or more may be eligible for one TES post commissioning study, subject to approval by a FPL HVAC specialist.
2. The post commissioning study must indicate the TES system current operation which must include hourly cooling loads (measured or derived) and supply/return temperatures of the secondary flows that are delivered to the customers cooling coils during the on-peak periods.
3. The post commissioning study must show any shortfalls in the TES system operation in meeting the original design expectations or optimized system operation.
4. The post commissioning study must indicate the required changes in TES design and/or operation to serve the cooling needs of the building from storage (partial or full) during FPL's peak demand period. The summer peak demand period is 12:00 noon to 9:00 pm Monday through Friday, April 1 through October 31. The winter peak demand period is 6:00 am to 10:00 am and 6:00 pm to 10:00 pm Monday through Friday, November 1 through March 31.
5. The post commissioning study must be based on standard engineering principles and be performed by a Professional Engineer licensed and insured in the state of Florida.
6. The post commissioning study is subject to review and acceptance by the FPL Representative.

The commissioning report must be conducted in accordance with ASHRAE Standard 150.