

William P. Cox Senior Attorney Florida Power & Light Company 700 Universe Boulevard Juno Beach, FL 33408-0420 (561) 304-5662 (561) 691-7135 (Facsimile)

April 9, 2012

RECEIVED FPSC

Ms. Ann Cole Division of the Commission Clerk and Administrative Services Florida Public Service Commission Betty Easley Conference Center 2540 Shumard Oak Boulevard, Room 110 Tallahassee, FL 32399-0850

120049-EQ

#### Re: Petition for Approval of Facility Charges to Interconnect Customer-Owned Renewable Generation of Tropicana Manufacturing Company

Dear Ms. Cole:

Please find enclosed for filing an original and seven (7) copies of Florida Power & Light Company's Petition for Approval of Facility Charges to Interconnect Customer-Owned Renewable Generation of Tropicana Manufacturing Company. Also enclosed is a compact disc containing FPL's Petition in Microsoft Word format.

Thank you for your assistance. Please contact me should you or your staff have any questions regarding this filing.

Sincerely,

William P. Cox Senior Attorney Florida Bar No, 0093531

	Enclosures
СОМ	
APA	
ECR	Gotty ECR-1
GCL	
RAD	5+0
SRC	
ADM	
OPC	
CLK	

WPC/bag

ростной, иснова буле

02105 APR-9≌

**FPSC-COMMISSION CLERK** 

#### BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Florida Power & Light Company's)Petition for Approval of Facility)Charges to Interconnect Customer-Owned)Renewable Generation of Tropicana Manufacturing )Company)

Docket No. **<u>120079</u>- EQ** Dated: April 9, 2012

#### PETITION

Pursuant to Sections 366.06 and 366.91(8), Florida Statutes ("F.S."), and Rule 25-6.065(4)(h), Florida Administrative Code ("F.A.C."), Florida Power & Light Company ("FPL" or the "Company") petitions this Commission for approval of facility charges associated with interconnection of customer-owned renewable generation of Tropicana Manufacturing Company ("Tropicana"). In support of this Petition, FPL states as follows:

1. FPL is a public utility subject to the jurisdiction of the Commission pursuant to Chapter 366, F.S. FPL's corporate offices are located at 700 Universe Boulevard, Juno Beach, FL 33408. The Commission has jurisdiction pursuant to Section 366.06, F.S., to establish rates at which a public utility shall provide necessary interconnection facilities for renewable energy generation facilities, and under Section 366.091(8), F.S., a contracting producer of renewable energy must pay the actual costs of its interconnection with the transmission grid or distribution system. Accordingly, FPL invokes the Commission's jurisdiction in filing this petition. FPL has a substantial interest in the fees it charges Tropicana for interconnection of Tropicana's renewable energy generation facilities with FPL's system.

2. The names and addresses of FPL's representatives to receive communications regarding this docket are:

DOCUMENT Nº MOER-DATE D2105 APR-9 ≅ FPSC-COMMISSION CLERK William P. Cox Senior Attorney Florida Power & Light Company 700 Universe Boulevard Juno Beach, Florida 33408 Will.Cox@fpl.com 561-304-5662 561-691-7135 (fax) Kenneth A. Hoffman Vice President, Regulatory Affairs Florida Power & Light Company 215 S. Monroe Street Tallahassee, Florida 32301 Ken.Hoffman@fpl.com 850-521-3919 850-521-3939 (fax)

3. In this petition, FPL seeks Commission approval of charges for facility costs required to interconnect a total of 1.6 MW of customer-owned land fill gas generation to FPL's system as required under Rule 25-6.065(4)(h), F.A.C. and the Company's standard interconnection agreement for Tier 3 renewable generator systems. Attached to this Petition as Exhibit A is a breakdown of the proposed interconnection facility charges.

#### I. Background

4. FPL currently serves Tropicana's manufacturing facilities in Fort Pierce. Tropicana seeks to generate power using landfill gas to serve its own facilities at the Fort Pierce location, utilizing FPL's net metering tariff and related Tier 3 net metering interconnection agreement. Tropicana plans to install a landfill gas generator at the Fort Pierce site, which is planned to run in continuous parallel with FPL's system. This synchronous generator will be rated 1.6MW. At all times, the generation facility shall only serve Tropicana load at the Fort Pierce site. Power generated by Tropicana's generation facility shall not flow onto the FPL system. The Tropicana generator breaker will be tripped in the event power is exported to FPL's system.

To qualify for expedited interconnection under Commission Rule 25-6.065(4),
F.A.C., customer-owned renewable generation must have a gross power rating that: (1) does not

exceed 90% of the customer's utility distribution service rating; and (2) falls within one of the following ranges: Tier 1 - 10 kW or less; Tier 2 -greater than 10 kW and less than or equal to 100 kW; or Tier 3 -greater than 100 kW and less than or equal to 2 MW. The gross power rating of the proposed landfill gas generation at Tropicana's Fort Pierce site is 1.6 MW, which does not exceed 90% of Tropicana's existing connection and falls within the Tier 3 net metering range.

6. FPL has completed an interconnection study for the interconnection of Tropicana's Ft. Pierce Continuous Parallel to the FPL system, attached hereto as Exhibit B. FPL has provided a copy of the interconnection study to Tropicana. Below is a brief description of the required interconnection equipment and associated costs identified by the interconnection study.

7. Interconnection facilities provided and/or installed by FPL will include relay protection cabinets, protection and control materials and equipment, and fiber optic cabling. This equipment will ensure that the Tropicana generation will be tripped in the event that the source feed from FPL is lost, provide isolation from FPL's system during extended outages, and prevent the flow of power onto FPL's system. A comprehensive description of the interconnection facilities is included in the interconnection study attached hereto as Exhibit B.

8. The total estimated cost for permitting, engineering, procurement, and construction of all related substation and protection & control work required is \$95,000. This cost includes permitting, engineering, installation, removals, materials, labor, vehicles, and overhead. Any difference between the estimated cost and actual cost will be either refunded or billed to Tropicana as appropriate.

#### **II.** Request

9. Rule 25-6.065(4)(h), F.A.C., provides (1) that each investor-owned utility shall show that their interconnection fees are cost-based and reasonable; and (2) that no charges or fees shall be assessed for interconnecting customer-owned renewable generation without prior Commission approval. FPL is requesting Commission approval to charge Tropicana \$95,000 for the system modifications identified by the interconnection study to safely and reliably enable the continuous parallel connection of the new landfill gas generation at Tropicana's Fort Pierce site. Commission approval of these interconnection charges and their payment by Tropicana will prevent other FPL customers from subsidizing the interconnection costs for Tropicana's new landfill gas generation facility.

10. Tropicana has not disputed the interconnection study results or the associated costs of the required system modifications, and Tropicana has requested and FPL has provided an invoice for the interconnection charges so that payment can be made by Tropicana for these facilities. Attached as Exhibit C is a letter from Tropicana affirming these facts.

11. The proposed interconnection charges are cost-based and reasonable. These charges address electrical system requirements designed to allow the proposed generation to interconnect safely and reliably. In determining these requirements, FPL analyzed its existing system to determine what facilities are needed and the scope of work required to safely connect Tropicana's proposed generation facility. Estimated costs of the needed materials, labor, and overhead expenses are then calculated through a computer estimating system. The costs are aggregated and adjusted for market and project contingencies to provide a final estimate. This construction estimating process typically results in estimated costs within 10% of actual costs.

Upon completion of construction, FPL will provide Tropicana with an accounting report with finalized costs to compare against the estimate. As noted above, any difference between the estimate and actual costs will be either refunded or billed to Tropicana as appropriate.

12. The requested approval of FPL's proposed interconnection charges to Tropicana is similar to a request filed by Tampa Electric Company on January 27, 2012, which the Commission approved by Order No. PSC 12-0148-PAA-EQ on March 29, 2012, in Docket No. 120032-EQ.

13. FPL knows of no disputed issues of material fact relative to the interconnection charges proposed herein.

WHEREFORE, for the foregoing reasons, FPL respectfully requests that the Commission approve the requested interconnection facility charges as set forth in Exhibit A.

Dated: April 9, 2012

Respectfully submitted,

By:

William P. Cox Senior Attorney Florida Bar No. 0093531 Florida Power & Light Company 700 Universe Boulevard Juno Beach, Florida 33408-0420 (561) 304-5662 (561) 691-7135 (fax)

# EXHIBIT A

# **BREAKDOWN OF INTERCONNECTION CHARGES**

Below is a breakdown of the estimate for the Tropicana Ft. Pierce Continuous Parallel project:

Total Charge		\$95,000.00
5.	FPL P&C & Substation Engineering	\$17,812.00
4.	P&C Contractor Labor	\$23,750.00
3.	Other Materials (Protection & Control ("P&C") + Substation)	\$ 4,750.00
2.	Relay Protection Cabinets (Quantity=3)	\$42,750.00
1.	Foundation, Conduit, Grounding, and Substation Contractor Labor	\$ 5,938.00

# EXHIBIT B

# **INTERCONNECTION STUDY**

# TROPICANA FORT PIERCE CONTINUOUS PARALLEL

# SMALL GENERATION INTERCONNECTION SERVICE

# FEASIBILITY STUDY

# TROPICANA FT PIERCE CONTINUOUS PARALLEL (TFPCP)

March 8, 2012

# TRANSMISSION PROJECTS SCOPE OF REQUIRED WORK FOR INTERCONNECTION OF THE TROPICANA FT PIERCE GENERATION CONTINUOUS PARALLELPROJECT (TFPCP) TO THE FPL DISTRIBUTION SYSTEM

In accordance with the Standard Generator Interconnection Procedures Florida Power & Light (FPL) has completed a Feasibility Study regarding the interconnection of Tropicana Ft. Pierce Continuous Parallel (TFPCP) to the FPL System. In summary, the following are the facilities, technical requirements, costs, and schedule for implementation in order to interconnect the project pursuant to the interconnection request for Generation Interconnection Service (GIS).

This study addresses the results of the generation interconnection assessment. It also addresses the scope of changes and additional equipment installation required for the interconnection of TFPCP into the FPL system. The project is implemented for the purposes of a continuous parallel with the FPL system with no export of power. The results delineated below may be subject to changes based on the final engineering design or due to unforeseen circumstances.

#### **Configuration and General Design Requirements**

See one line diagram, Figure 1, last page of this Feasibility Study.

TFPCP is responsible for protecting their generating facility so that utility reclosing, faults, or other disturbances on the FPL system do not cause damage to the TFPCP generating equipment.

The generating facility shall be designed, operated, and maintained in conformance with IEEE STD 519 Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems and IEEE STD 1547, IEEE STD 1547.2 Interconnection Standards.

A power source for tripping and control shall be provided at the facility by a DC battery bank that is equipped with a charging system. TFPCP shall comply with applicable IEEE Standards for sizing, installing, maintaining and testing stationary battery systems to ensure satisfactory operation of the protective relays and associated equipment. For vented lead-acid batteries, reference IEEE Stds. 450, 484, and 485. For nickel-cadmium batteries, reference IEEE Std.1106 and IEEE Std.1115. For VRLA (valve regulated leadacid) batteries, reference IEEE Stds. 1187, 1188, and 1189.

The interrupting device(s) used shall comply with the functional and technical specifications as outlined in this study. In addition, the TFP low voltage power circuit breaker at the generator shall be IEEE C37.13 compliant, Standard for Low Voltage AC Power Circuit Breakers.

To allow for future system growth, all fault clearing devices shall be rated, at a minimum, to clear 120% of the existing fault current at the point of interconnection.

The generation facilities at TFPCP must be applied with a grounding arrangement that is compatible with an effectively grounded system. This ground source, to be provided by TFPCP, will be through the existing interconnect transformers configuration as grounded wye – delta.

Before proceeding with continuous parallel operation, TFPCP drawings and schematics are subject to review and approval by FPL. The drawings shall include the following:

- 1. One-line diagram showing the connection between the TFPCP facility and utility;
- 2. Three line diagram showing current transformer (CT) and potential transformer (PT) circuits for protective relays;
- 3. DC tripping and control schematic;
- 4. Wiring/Connection Diagrams, and
- 5. Summary of paralleling sequence for generation facility.
- 6. Relay Settings associated with the paralleling facilities.
- 7. Mechanical operating time for breakers 52-10, 52-20, 52-G.

FPL shall have the option to review TFPCP facility relay settings to coordinate protective relaying. FPL's review of TFPCP drawings and settings shall not be considered an endorsement.

Any TFPCP facility deviations from this design document shall have prior FPL written approval. In addition, FPL shall be notified of any plant design changes subsequent to the execution of the Interconnect Agreement that would change the level of power to be generated.

#### **General Operation and Operational Requirements**

FPL's Citrus substation 138kV bus is connected to a 138kV terminal at Midway substation and a 138kV terminal at Sandpiper through Primavista. Normally, the Tropicana Ft Pierce (TFP) load is connected to FPL's transmission system by TFP's two 138kV/13.2kV transformers, T10 and T20. Transformer T10 secondary feeds the 13.2kV Bus 10 by main breaker 52-10. Transformer T20 secondary feeds the 13.2kV Bus 20 by main breaker 52-20.

A landfill gas generator is to be installed by TFP and is planned to run in continuous parallel with FPL's system. The synchronous generator will be rated 1.6MW, 480V, X"d = 0.1563 on a 2000kVA base. The 480V generator bus is connected to TFP's 13.2kV switchgear Bus 20 and FDR 20-2 via the generator step-up transformer. As an alternate, the generator may be connected to TFP's 13.2kV Bus 10 via 52-10-20 bus tie breaker with 52-20 open. TFP shall only connect their generation to main breaker 52-10 and transformer T10 through tie breaker 52-10-20 and not by other means.

The TFP facility may operate in parallel with FPL through main breaker 52-20 or main breaker 52-10 through bus tie breaker 52-10-20 only. In the event the FPL source is lost,

TFP generation shall be tripped. TFP shall only parallel with the FPL system for hot line conditions.

TFP may operate in islanded mode for extended FPL outages if and only if both incoming breakers 52-10 and 52-20 are open so that TFP is isolated from FPL's system.

At all times, the generation facility shall only serve TFP load. Power generated by the facility shall not flow onto the FPL system. The TFP generator breaker shall be tripped in the event power is exported to FPL.

TFP operator phone number(s) and FPL Dispatcher phone number(s) shall be exchanged for the operation and maintenance of the TFP interconnection equipment.

FPL has automatic reclosing on its transmission breakers following operations for transmission line faults. The open interval for the first reclose is 20 cycles. The TFP facility shall be designed so as not to interfere with FPL's ability to quickly restore transmission service following a momentary fault. Therefore, TFP total fault clearing time should be less than the automatic reclose time of FPL source breakers. In supplement, FPL will implement at Midway substation, modified settings to include reclosing supervision functions of dead line and sync check permissive to prevent out of sync reclosing operations.

Synchronization controls shall be in place at the TFP generation site to prevent out-ofphase parallel connection to the FPL system. Breaker 52-G will be the only point of synchronization for the generator. In addition, there shall be undervoltage relaying in place at TFP to trip generation upon loss of FPL source(s).

In the event the generation interconnect facility is disconnected from FPL, a minimum five minute stabilization delay on re-connection to the utility shall be applied ensuring utility voltage and frequency have returned to normal.

#### **General Configuration Requirements**

1) Point of Interconnection

The Point of Interconnection will be the point at which the TFP facility connects to the existing FPL transmission system at Citrus substation.

 Point of Change of Ownership The Point of Change of Ownership will be at the Point of Interconnection.

3) Interconnect Protection

FPL requires that the TFP facility, interconnecting with the FPL Transmission System as a continuous parallel, shall have installed interconnect protection as designed and set by FPL, in addition to the TFP installed protection.

# I. SCOPE OF WORK (SUBSTATION)

#### FPL - Sandpiper Substation

No work required.

#### FPL - Midway Substation

No work required.

#### FPL - Citrus Substation

Conduit and cable will be installed. FPL will make provisions to run a #10-12 conductor cable from Citrus substation control house RTU (remote terminal unit) to the FPL fence line at TFP where FPL will install an FPL provided junction box with 12 point terminal block. One side of the terminal block will be for the FPL cable and the other side of the terminal block will be for TFP. TFP will run conduit and cable from the FPL fence line junction box into TFP control house to the FPL interconnect cubicle in the switchgear room.

#### **TFP Main Substation Equipment Requirements**

TFP facility breakers shall be rated, at a minimum, in accordance with applicable ANSI/IEEE standards. The breakers shall also be rated to exceed the available continuous current and available fault current at the point of interconnection.

#### TFP Control House and Generator Location

Cable tray, conduits, and interconnect wiring shall be provided by TFP as needed for the connection of FPL supplied equipment installed in the TFP switchgear house and cogeneration enclosure. In addition, TFP shall coordinate with FPL for the installation of a cable between TFP control house and Citrus substation control house.

TFP shall coordinate with FPL for the fabrication and installation of 52-10 and 52-20 relaying in a spare cubicle located in the TFP switchgear room. The cubicle door will be FPL padlocked and provided with a window for viewing FPL relay status.

#### Current Transformers

TFP shall provide access to existing current transformers for FPL's use. Access is required for the 2000/5 current transformers on the line side of 52-10. In addition, access is required for the 2000/5 current transformers on the line side of 52-20. FPL's relaying shall be wired in series with existing TFP relaying.

#### Potential Transformers

TFP shall provide access to existing potential transformers for FPL's use. Access is required for the 14,400:120 open delta potential transformers on the line side of 52-10.

In addition, access is required for the 14,400:120 open delta potential transformers on the line side of 52-20. FPL's relaying shall be wired in parallel with existing TFP relaying.

Relaying potential is desired from the line side of 52-G for FPL relay R6. FPL's relaying shall be wired in parallel with TFP relaying.

### Protective Relaying 52-10 and 52-20

TFP shall provide space in the facility switchgear room for an FPL provided and installed spare cubicle inner swing door. On the inner swing door will be mounted FPL interconnect relaying and associated components for 52-10 and 52-20. The cubicle outer door will be FPL modified to have a clear lexan front window for local, visual verification of relay targets and status indications. The cubicle door will be padlocked with keys for access by FPL personnel only. The relaying installed in the cubicle is required to be grounded. TFP shall provide access to a ground bar that is solidly grounded to earth ground.

In addition, space shall be provided so that the cubicle outer door and inner swing panel have an unobstructed path when fully open.

Cable tray and/or conduits and interconnect wiring shall be provided by TFP as needed for the connection of remote devices in the TFP facility to the FPL protective relaying cubicle. TFP will pull the interconnect wiring into the FPL cubicle and terminate it. FPL field engineers will terminate the wiring from the inner swing door to the TFP provided terminal blocks in the interconnect cubicle at the appropriate time.

One dedicated 30 ampere fused, 125 VDC circuit shall be provided by TFP for use as DC power supply to the FPL protective relaying cubicle. TFP shall notify FPL if the DC voltage level to be used is changed.

# Protective Relaying Cabinet 52-G

TFP shall provide space in the co-generation unit enclosure for an FPL provided, TFP installed, wall mount paralleling interconnect, relay cabinet for 52-G. The cabinet will have a clear lexan front window for local, visual verification of relay targets and status indications. The door will have locks with keys for access by FPL personnel only. The cabinet is required to be grounded. TFP shall arrange to solidly ground the cabinet to earth ground. In addition, space shall be provided so that the outer door and inner swing panel have an unobstructed path when fully open.

Cable tray and/or conduits shall be provided by TFP as needed for the connection of TFP provided remote cabling from TFP devices to the FPL protective relay cabinet.

One dedicated 20 ampere fused, 24 VDC circuit shall be provided by TFP for use as DC power supply to the FPL interconnecting protective relaying cabinet. TFP shall notify FPL if the DC voltage level to be used is changed.

TFP shall supply all cabling as specified by FPL for the interconnection relay cabinet at the facility site. TFP will install the cabling and pull the cable into the FPL cabinet. FPL field engineers will land the cable wiring in the cabinet at the appropriate time.

# II. SCOPE OF WORK (SITING/PERMITTING)

No work required.

# III. SCOPE OF WORK (PROTECTION AND CONTROL)

#### Relay Protection at FPL Midway Substation

Citrus substation connects to the Midway – Sandpiper 138kV transmission line. The Midway terminal is protected by PL-1474 with an SEL-421 used for reclosing. At Midway, on PL-1474, the reclosing settings on the SEL-421 shall be revised to include reclosing supervision functions of dead line and sync check permissive.

#### **Relay Protection at FPL Sandpiper Substation**

No additional protection or modifications are required.

#### **Relay Protection at TFP**

TFP is responsible for protection of the TFP facility including all electrical equipment associated with the continuous parallel, including 52-10, 52-20, 52-G and transformers T10, T20, and TX-G.

FPL will design, engineer, and furnish interconnect protection relaying for 52-10, 52-20, and 52-G. Each generation interconnection relay design will use one SEL-751 relay and other components.

FPL intends to stock spares only for equipment in the interconnect cubicle and cabinet that uses 125 VDC. If TFP elects to use equipment that requires a different DC supply voltage, failure of any FPL equipment may result in extended periods where the TFP facility will not be allowed a continuous parallel with FPL. TFP shall notify FPL if the DC voltage levels to be used are changed.

A remote circuit schedule and relay panel drawings will be provided by FPL when engineering is complete. In addition, TFP shall supply all panel interconnections for protection, control, and monitoring as outlined elsewhere in this document.

#### 52-10 Relay 751-1 (R5)

The SEL Relay R5 for 52-10 is a multi-function relay. Its settings will be coordinated with TFP relay settings.

Relay R5 shall be connected to the existing set of 2000/5 CTs for breaker 52-10. R5 shall also be connected to the output of the associated relaying 14400:120 open delta PTs. R5 relay will use 125 VDC as its control voltage.

A dedicated 52-10 "a", 52-10-20 "a" contact and 52-20 "a" contact shall be provided for R5. A 52-G "a" contact will be communicated from R6 to R5 relay by fiber optic link. Status inputs to the R5 relay are required to signal that TFP is generating in parallel with FPL. When TFP generation is not paralleled with FPL by 52-10, R5 voltage and frequency functions will be blocked from operation.

# Trip

R5 will send transfer trip to 52-G R6 for normal trip conditions. TFP shall provide access to the 52-10 trip circuit for R5 relay. R5 relay will trip 52-10 for breaker failure conditions.

# Breaker Failure

Breaker failure protection will be performed by the R5 relay. Ten cycles after a trip has been sent to relay R6 by R5 and 52-G has not come open, relay R5 will trip 52-10. Breaker failure functions will not be initiated by a relay failure or communications channel failure.

#### R5 Alarms

In the event of a relay/trip circuit failure or fiber failure, R5 will generate an alarm which will be sent to Citrus substation for integration into FPL's SCADA system. In addition, R5 will transmit relay/trip circuit failure alarm, fiber failure alarm, and loss of potential alarms to R6 for integration into TFPs SCADA system.

#### 52-20 Relay 751-2 (R3)

The SEL Relay R3 for 52-20 is a multi-function relay. Its settings will be coordinated with TFP relay settings.

Relay R3 shall be connected to the existing set of 2000/5 CTs for breaker 52-20. R3 shall also be connected to the output of the associated relaying 14400:120 open delta PTs. R3 relay will use 125 VDC as its control voltage.

A dedicated 52-10 "a", 52-10-20 "a" contact and 52-20 "a" contact shall be provided for R3. A 52-G "a" contact will be communicated from R6 to R3 relay by fiber optic link. Status inputs to the R3 relay are required to signal that TFP is generating in parallel with FPL. When TFP generation is not paralleled with FPL by 52-20, R3 voltage and frequency functions will be blocked from operation.

#### Trip

R3 will send transfer trip to 52-G via R6 for normal trip conditions. TFP shall provide access to the 52-20 trip circuit for R3 relay. R3 relay will trip 52-20 for breaker failure conditions.

#### Breaker Failure

Breaker failure protection will be performed by the R3 relay. Ten cycles after a trip has been sent to relay R6 by R3 and 52-G has not come open, relay R3 will trip 52-20. Breaker failure functions will not be initiated by a relay failure or communications channel failure.

#### R3 Alarms

In the event of a relay/trip circuit failure or fiber failure, R3 will generate an alarm which will be sent to Citrus substation for integration into FPL's SCADA system.

In addition, R3 will transmit relay/trip circuit failure alarm, fiber failure alarm, and loss of potential alarms to R6 for integration into TFPs SCADA system.

#### 52-G Relay 751-3 (R6)

The SEL Relay R6 is used to trip 52-G for transfer trip signals initiated from R3 or R5. R6 will also transmit and receive status information and provide outputs to TFP SCADA as described below.

R6 shall be connected to the output of the associated relaying PTs at 52-G.

R6 relay will use 24 VDC as its control voltage.

Relay and TFP statuses will be communicated to R6 by fiber optic link. A dedicated 52-G "a" contact shall be provided for R6. Status inputs to the R6 relay are required to signal that TFP is generating in parallel with FPL.

#### 52-G Trip and Close

TFP shall provide access to 52-G trip circuit for R6 relay. R6 will trip 52-G for transfer trip received from R3 or R5. In addition, 52-G will be tripped for R3, R5, R6 failure or fiber link failure.

TFP shall provide access to 52-G close circuit. A failure of the FPL interconnect protection shall trip and prevent 52-G from closing.

R6 shall provide multiple output contacts to TFP for integrating the following alarms into TFP SCADA. TFP requires:

- R3 Trip alarm
- R5 Trip alarm
- R3, R5, R6 Relay failure/fiber link failure alarm
- R3, R5, R6 loss of potential alarm

#### Relay Communications

TFP shall install a dedicated  $62.5\mu m$  multi-mode fiber pair from FPL relay R5 for 52-10 to FPL relay R6 for 52-G. In addition, a dedicated  $62.5\mu m$  multi-mode fiber pair shall be installed by TFP from FPL relay R3 for 52-20 to FPL relay R6 for 52-G.

TFP shall terminate the fiber to be used with ST connectors. TFP will provide any necessary fiber optic jumpers and patch panels. TFP shall test the fiber by OTDR and provide the test results to FPL.

FPL shall provide and install the fiber optic transceivers. The two fiber optic channels will transmit and receive relay and breaker statuses and send transfer trip to 52-G as described elsewhere in this document.

A failure of the R3, R5 or R6 communications channel shall trip only 52-G and prevent it from closing.

### Metering

Revenue metering shall not be required since no export of power will be allowed. Existing load metering will remain.

# **Operations:**

There will be requirements for various transmission and distribution clearances. Timing of these clearances will be dependent upon many factors including but not limited to the time of year, maintenance requirements, other previously granted clearances, weather, telecommunication traffic/contracts and system load conditions.

Clearances are reviewed on a daily basis and may be cancelled or delayed due to reliability considerations associated with the factors listed above. Such cancellations or delays associated with planned clearances will be considered unavoidable and may affect the scheduled completion of requirements associated with this project which in turn may delay the in-service date as well as impact the total cost of the project.

# Summary of Costs - Substation, Protection & Control, & Metering

The total cost for permitting, engineering, procurement, and construction of all FPL related Substation, Protection & Control, and Metering work required is <u>\$95,000</u>. This cost includes permitting, engineering, installation, removals, materials, labor, vehicles and overheads (reimbursable adders). This cost is a non-binding, good faith cost estimate as described in the scope of work above.

# IV. SUMMARY OF PROJECT COST

The following reflects the good faith, non-binding estimate of the TFPCP project:

# \$ 95,000 Total

All estimates are shown in year 2012 dollars. In addition, labor, material and equipment costs are subject to change depending upon market conditions and delivery schedules. Labor costs are based upon contractors performing the work under FPL supervision.

The estimated duration to engineer, permit, acquire material and construct the FPL scope of work described in the configuration shown on Figure A is 6 months from the date of a signed interconnection agreement and payment of costs.

**FIGURE 1** 



# EXHIBIT C

# TROPICANA LETTER

κ.

# Iropicana.

April 4, 2012

. . . .....

Mr. Anthony Johnson Sr. Engineer, Transmission Services and Planning Florida Power & Light 4200 W. Flagler Street Miami, FL 33134

#### Re: Tier 3 Net Metering Generation at Ft. Pierce

Dear Mr. Johnson:

Tropicana Manufacturing Company approves Florida Power & Light's (FPL) Interconnection Study. Tropicana has worked with FPL throughout the study process and does not dispute the interconnection study results or the associated costs of the required system modifications. Tropicana has requested an invoice for the interconnection charges, which has been provided by FPL, and is prepared to pay these charges (\$95,000.00) in full to facilitate timely completion of this project.

Please contact me with any questions or concerns.

Sincerely,

Mulle W Harpert

Michael W. Haycock Vice President

Tropicana Products, Inc. 1001 13th Avenue East, P.O. Box 338 (34206), Bradenton, FL 34208 941-747-4461 Fax: 941-749-3966

- while we have a consider approximate and the second second