



Control Number: 35077



Item Number: 407

Addendum StartPage: 0

PROJECT NO. 35077

2013 OCT 16 PM 1:25  
PUBLIC UTILITY COMMISSION

INFORMATIONAL FILING OF § PUBLIC UTILITY COMMISSION  
ERCOT INTERCONNECTION §  
AGREEMENTS PURUSANT TO § OF TEXAS  
SUBST. R. §25.195(e) §

**SECOND AMENDMENT TO THE ERCOT**  
**STANDARD GENERATION INTERCONNECTION AGREEMENT**  
**BETWEEN CROSS TEXAS TRANSMISSION, LLC**  
**AND MIAMI WIND I, LLC**

James W. Checkley, Jr.  
Cross Texas Transmission, LLC  
206 East 9<sup>th</sup> Street, Suite 1750  
Austin, Texas 78701  
Phone: 512-473-2700  
FAX: 512-276-6130  
Email: [jcheckley@crosstexas.com](mailto:jcheckley@crosstexas.com)

October 16, 2013

407

1

**SECOND AMENDMENT TO THE  
ERCOT STANDARD GENERATION INTERCONNECTION AGREEMENT**

This Second Amendment to the ERCOT Standard Generation Interconnection Agreement (this "Second Amendment") is made as of October 1, 2013, (the "Second Amendment Date") by and between Cross Texas Transmission, LLC, a Delaware limited liability company ("Transmission Service Provider") and Miami Wind I, LLC, a Texas limited liability company ("Generator"), hereinafter individually referred to as "Party," and collectively referred to as the "Parties".

**RECITALS**

**WHEREAS**, the Parties entered into that certain Standard Generation Interconnection Agreement dated March 1, 2013 as amended by the First Amendment to the ERCOT Standard Generation Interconnection Agreement, dated as of July 29, 2013 (the "**Amended Agreement**"); and

**WHEREAS**, Exhibit "B" to the Amended Agreement contained a list of dates by which certain obligations must be met or certain milestones must be achieved; and,

**WHEREAS**, Exhibit "C" to the Amended Agreement contained interconnection details; and,

**WHEREAS**, the Parties now desire to amend Exhibits "B", and "C" to the Amended Agreement in accordance with the terms and conditions hereof, and,

**NOW, THEREFORE**, in consideration of the foregoing and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, agree to the following

**AGREEMENT**

1. Exhibit "B" of the Amended Agreement is deleted in its entirety and is hereby replaced entirely with the terms and conditions set forth in Exhibit "B" of this Second Amendment.
2. Exhibit "C" of the Amended Agreement is hereby deleted in its entirety and is hereby replaced entirely with the terms and conditions set forth in Exhibit "C" of this Second Amendment.
3. Exhibit "B" of the Amended Agreement is null and void and the dates contained therein are of no effect, import, or consequence. Any failure by a Party to meet certain obligations or achieve certain milestones on or before the date listed in Exhibit "B" of the Amended Agreement will not be held by the other Party to be a default under that Agreement.

4. This Second Amendment shall in all respects be governed by and construed in accordance with the laws of the State of Texas, without giving effect to any choice of law principles thereof which may direct the application of the laws of another jurisdiction.
5. This Second Amendment may be executed in one or more counterparts, each of which shall be deemed to be an original and all of which shall constitute one and the same agreement. The delivery of an executed counterpart signature page by facsimile or other electronic means shall be deemed to constitute an original signature as if manually executed and delivered to the counterparty.
6. The Parties agree that except as expressly amended or otherwise provided for herein, all other terms, provisions and conditions of the Amended Agreement shall remain unchanged, in full force and effect, and binding on the parties.

*The remainder of this page intentionally left blank.*

Agreed and effective as of the Second Amendment Date first written above:

CROSS TEXAS TRANSMISSION, LLC

Signature: Cameron Fredkin

Name: Cameron Fredkin

Title: Vice President

MIAMI WIND I, LLC

Signature: Bryan Schueler

Name: Bryan Schueler

Title: Vice President



[Signature Page To Second Amendment to the ERCOT Standard Generation Interconnection Agreement]

## EXHIBIT "B"

### TIME SCHEDULE

Interconnection Option chosen by Generator (check one):   X   Section 4.1.A. or        Section 4.1.B

If Section 4.1.B is chosen by Generator, the In-Service Date(s) was determined by (check one): (1)   N/A   good faith negotiations, or (2)   N/A   Designated by Generator upon failure to agree.

Date by which Generator must provide notice to proceed with design and procurement and provide security, in the amount of \$100,000, as specified in Section 4.2, so that TSP may maintain schedule to meet the In-Service Date:   Provided on March 01, 2013  

Date by which Generator must provide additional security in the amount of \$1,480,000 (for an aggregate of \$1,580,000 of security) for additional design, procurement and construction planning, so that TSP may maintain schedule to meet the In-Service Date:   Provided on August 02, 2013  

Date by which Generator must provide notice to commence construction and provide security, in the amount of \$1,492,000 (for an aggregate of \$3,072,000 of security), as specified in Section 4.3, so that TSP may maintain schedule to meet the In-Service Date:   November 01, 2013  

In - Service Date(s):   June 06, 2014  

(Notes: (1) In the event that it is not necessary for all facilities associated with the TIF to be completed on the same date, this entry may consist of multiple dates to reflect the staged completion of the TIF to meet those needs. (2) In-Service Date(s) can be expressed as either a specific date or expressed as a defined number of months after all conditions under Sections 4.2 and 4.3 have been satisfied.)

Scheduled Trial Operation Date (for the initial 288.6 MW):   June 09, 2014  

Scheduled Commercial Operation Date (for the initial 288.6 MW):   July 31, 2014  

Scheduled Trial Operation Date (for the subsequent 111 MW):   June 1, 2015  

Scheduled Commercial Operation Date (for the subsequent 111 MW):   August 15, 2015  

Due to the nature of the subject of this Agreement, the Parties may mutually agree to change the dates and times of this Exhibit "B". The Parties acknowledge and agree that the Generator's failure to fulfill in a timely fashion the conditions under Section 4.2 and Section 4.3 and fulfill the security posting requirements in accordance with the dates set forth in this Exhibit B" may, as determined in TSP's reasonable discretion, cause the need for additional or revised studies to be performed or other reasonably related conditions or obligations to be fulfilled, if Generator

has not, on or prior to August 15, 2013, satisfied conditions precedent applicable to Generator to have the Plant added to ERCOT planning models, as set forth in ERCOT Planning Guide Revision Request 018.

## **EXHIBIT "C"**

### **INTERCONNECTION DETAILS**

- 1) Name: Miami Wind I, LLC
- 2) Point of Interconnection location: The Point of Interconnection is located in Gray County at 7491 County Road 17, Lefors, Texas 79054 within Cross Texas Transmission's Gray Substation ("TSP Substation"). The Point of Interconnection shall be defined as the point where the Generator's 345 kV transmission line, originating from the Generator's substation, terminates the phase conductors and associated equipment on the TSP's dead-end structure located at the TSP Substation. Exhibit "C-1" shows the location of the Point of Interconnection on the one-line.
- 3) Delivery Voltage: 345 kV
- 4) Number and size of Generating Units: 156 units, 1.85 MW each (phase I)  
60 units, 1.85 MW each (phase II)
- 5) Type of Generating Unit: GE 1.85 MW
- 6) Metering and Telemetry Equipment:
  - a) ERCOT Polled Settlement ("EPS") metering will be located at the TSP Substation. The metering equipment described below will be procured, owned and installed by the TSP inside the TSP Substation. See Exhibit "C-1" for the location of the ERCOT EPS metering on the one-line.
    - i) one (1) 345 kV meter panel with one (1) primary meter and one (1) back up meter
    - ii) three (3) 345 kV billing accuracy metering units comprised of potential transformers and current transformers
  - b) Multi-ported remote terminal unit ("RTU") will be furnished by the TSP at the TSP Substation as part of the TIF and will have dedicated communication port available to provide breaker status, energy and other telemetered data to the Generator's monitoring and control systems. The Generator is responsible for determining and providing all their RTU communications needs.
  - c) Multi-ported RTU(s) will be furnished by the Generator at the Generator's substation(s) as part of the GIF and will have dedicated communication port(s) available to provide breaker status, energy and other telemetered data to the TSP's monitoring and control system to meet the TSP's needs. The Generator will provide communication path(s) for the TSP's port(s) as described in Section 9 below.



- d) All other metering and telemetry requirements shall be finalized at a later date, upon completing design requirements and coordination efforts with Generator.

7) Generator Interconnection Facilities:

The following lists are not intended to be complete lists of all facilities that are part of the GIF.

- a) Generator to design and construct a new 345 kV transmission line from the Generator's substation site approximately 32 miles in length to the TSP Substation.
- b) Optical ground wire ("OPGW") will be installed with the new line and the necessary material to dead-end and connect to TSP's dead-end structure at the TSP Substation. Additionally, the Generator will install fiber located in all-dielectric self-supporting ("ADSS") 345 kV under build for an alternate communication path or an equivalent approved by the TSP.
- c) A full tension, dead-end 345 kV line structure located near the TSP Substation property line (Generator shall coordinate the height of this structure, the arrangement of the phases and the location of the structure with TSP).
- d) 345 kV slack span line from the Generator's full tension dead-end to the TSP's dead-end structure.
- e) Generator's substation including 345 kV step-up transformer(s), transformer protection package(s), 345 kV circuit breaker(s), 345 kV disconnect switch(es) and protective relaying panels for the Generator's 345 kV line that will coordinate with the TSP's line panels at the TSP Substation for the Generator line protection.
- f) Multi-ported RTU(s) to provide breaker status, telemetry and energy data from the Generator's substation to the Plant controller, the TSP and ERCOT.
- g) Associated structures, buswork, conductor, connectors, grounding, conduit, control cable, foundation work, perimeter fencing, grading/dirt work and any other related materials necessary for construction and operation of the GIF.
- h) The communication equipment is described in Section 9 below.
- i) All other GIF shall be finalized at a later date in accordance with the Stability and Facilities Studies required by ERCOT for interconnection that establish the design requirements, in coordination with Generator.

8) Transmission Service Provider Interconnection Facilities:

The following lists are not intended to be complete lists of all facilities that are part of the TIF.

- a) TSP to design and construct a new 345 kV line terminal at Gray Substation that will accommodate the Generator's 345 kV slack span line termination.
- b) The protection and control systems design for the TSP's 345 kV terminal will be coordinated with the Generator.
- c) ERCOT EPS metering to be designed and installed at the TSP Substation.
- d) All other TIF shall be finalized at a later date in accordance with the Stability and Facilities Studies required by ERCOT for interconnection that establish the design requirements, in coordination with Generator.

9) Communications Facilities:

- a) The communications facilities described below will be paid for, owned, installed and maintained by Generator.
  - i) OPGW communication facilities between Generator's substation and the TSP Substation. Additionally, the Generator will install fiber located in ADSS cable 345 kV under build for an alternate communication path or an equivalent approved by the TSP.
  - ii) The Generator will provide the dedicated channels or fiber pairs for necessary items including the Generator's 345 kV line protective relaying, RTU ports for TSP, telemetry, voice and other communication needs.
  - iii) One (1) dedicated voice dispatch circuit between TSP's dispatch office and Generator's control center, including associated interface equipment at Generator's control center.
  - iv) One (1) RTU communications circuit between the Generator's substation and TSP's master SCADA system at TSP's dispatch office.
  - v) A telephone company interface box at the Generator's substation for demarcation of telephone company circuits.
  - vi) High voltage isolation equipment for all telephone company circuits at the Generator's substation.
- b) The communications facilities described below will be paid for, owned, installed and maintained by TSP.
  - i) One (1) dial-up circuit, including associated interface equipment at the location of the EPS metering facilities.
- c) All other communication facilities shall be finalized at a later date, upon completing design requirements and coordination efforts with Generator.

10) System Protection Equipment:

- a) Generator will be responsible for the proper synchronization of its facilities with the CTT transmission system, in accordance with ERCOT guidelines.
- b) The Plant and the Generator Interconnection Facilities shall be designed to isolate any fault, or to disconnect from or isolate any abnormality that would negatively affect the ERCOT system. The Generator shall be responsible for protection of its facilities. In particular Generator shall provide relays, circuit breakers, and all other devices necessary to promptly remove any fault contribution of the generation equipment to any short circuit occurring on the TSP system. Such protective equipment shall include, without limitation, a disconnect device or switch with the appropriate interrupting capability to be located within the Generator Interconnection Facilities. In addition to faults within the Plant and the Generator Interconnection Facilities, Generator shall be responsible for protection of such facilities from such conditions as negative sequence currents, over or under frequency, sudden load rejection, over or under voltage, generator loss of field, inadvertent energization (reverse power) and uncleared transmission system faults.
- c) The Plant and the Generator Interconnection Facilities shall have protective relaying that is consistent with the protective relaying criteria described in the ERCOT Requirements and NERC standards. If reasonably requested by the TSP, Generator shall, at its expense, provide corrections or additions to existing control and protective equipment required to protect the ERCOT system or to comply with government, industry regulations, or standard changes.
- d) The Generator's protective relay design shall incorporate the necessary test switches to enable complete functional testing. The required test switches will be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations and tripping generator units.
- e) Generator shall install sufficient disturbance and fault monitoring equipment to thoroughly analyze all system disturbances of the generation system. This equipment shall monitor the voltages at major nodes of the system, current at major branches, breaker and switch positions, and enough of the dc logic in the relay control scheme to analyze a system disturbance. The disturbance and fault monitoring for both Generator and TSP shall be consistent with the disturbance monitoring requirements described in the ERCOT Requirements and NERC standard.
- f) Prior to modifying any relay protection system design or relay setting involving the connecting facilities between the two Parties, Generator shall submit the proposed changes to the TSP for review and approval. TSP's review and approval shall be for the limited purpose of determining whether such proposed changes are compatible with the ERCOT transmission system.

- g) In accordance with Good Utility Practice and ERCOT and NERC standards, the TSP shall determine requirements for protection of the Point of Interconnection and shall specify and implement protection and control schemes required to comply with such requirements. Generator shall have the right to review and comment on the proposed protection requirements and the Generator's proposed alternatives shall be reasonably considered by the TSP. The TSP shall coordinate the relay system protection between Generator and the ERCOT system.
- h) Additionally, the Generator shall provide in Siemens Power System Simulator for Engineering ("PSSE") or Aspen One-Liner format the short circuit model for the Generator Interconnection Facilities, the generators and collector facilities prior to the protective relays settings being calculated and in no case later than 60 days prior to the initial actual in-service date. Generator data submitted in accordance with Section 7.3 of Exhibit "A" shall include if applicable, but not be limited to, (1) a detailed one-line diagram of the proposed Plant and Generator Interconnection Facilities showing the collector buses and their voltages, (2) conductor types and lengths of all lines connecting the collector buses to the TSP Substation, (3) the total number of turbines to be served by each collector bus, (4) size, make and model of individual turbines, (5) capacitor bank sizes, locations (electrical) and control settings, and (6) the impedance and rating data of each transmission voltage line, GSU and/or autotransformer that will be installed to get power from the Plant and onto the transmission grid.
- i) All other TSP System Protection Equipment requirements shall be finalized at a later date, upon completing design requirements and coordination efforts with Generator.

11) Inputs to Telemetry Equipment:

- a) A generation-specific RTU is required at the Plant or GIF for TSP's generation-specific SCADA. A specific RTU points list will be developed by the TSP as a part of each generation project's electrical configuration. For such purpose, Generator shall be responsible for providing TSP with metering and relaying one-line diagrams of the generation and the Generator's substation facilities. Generator shall provide TSP with a station communication drawings which is to include RTU point sources (intelligent electronic devices ("IEDs") and contacts supplying required data), interface devices, and connections to the RTU.
- b) All other Inputs to Telemetry Equipment requirements shall be finalized at a later data, upon completing design requirements and coordination efforts with Generator.

12) Supplemental Terms and Conditions:

- a) Device Numbers, Switching and Clearance:
  - i) Generator shall obtain prior approval of the TSP before operating any transmission voltage circuit switching apparatus (e.g. switches, circuit breakers, etc.) at the Generator Interconnection Facilities, whether for testing or for operations of the Plant, which approval shall not be unreasonably withheld, conditioned or delayed.
  - ii) The TSP shall coordinate switching at the Point of Interconnection. Each Party shall be responsible for operations of their facilities.
  - iii) Generator and TSP will collaborate and reach mutual agreement on the establishment of: i) unique name(s) for the Generator's substation, unit main transformers and switching station(s) connected at transmission voltage; ii) device numbers for all transmission voltage switches and breakers which will be owned by Generator; and iii) unique names for Generator's generating units, in accordance with ERCOT Requirements. Generator will submit to TSP, within thirty (30) days after execution of this Agreement, its proposed name(s), as referenced in this paragraph. Generator will register the name(s) of the facilities specified in this paragraph and Generator-owned device numbers at ERCOT, in accordance with ERCOT Requirements, and such names and device numbers will be consistent with the names and numbers mutually agreed upon pursuant to this paragraph. Generator will not change any of the names or device numbers, established pursuant to this paragraph, without written approval of TSP. Generator will label the devices, referenced in item (ii) above, with the numbers assigned to such devices.
  - iv) Each Party will keep records of maintenance and switching operations of control and protective equipment associated with this interconnection and will allow the other Party reasonable access to inspect such records.
- b) No Retail Sale of Electricity to Generator by TSP: TSP considers the energy and power that the Plant and Generator Interconnection Facilities may from time to time consume from the 345 kV ERCOT grid through the Point of Interconnection to be a retail transaction and as such, the TSP does not intend to be the provider of this retail service. Generator shall make necessary arrangements with the appropriate retail supplier for the energy and power that the Plant and Generator Interconnection Facilities may consume from the 345 kV ERCOT grid through the Point of Interconnection.
- c) Notification:
  - i) Upon written request from TSP, Generator shall notify the TSP in writing as to which ERCOT Qualified Scheduling Entity the Plant will be scheduling through.
  - ii) Upon written request from TSP, Generator shall supply notification to the TSP identifying their retail service provider 120 days prior to the In-Service Date and Generator shall supply notification to the TSP 60 days prior to any changes in retail service provider, thereafter.
- d) Sub-Synchronous Resonance ("SSR") and Sub-Synchronous Interaction ("SSI"): Induction generation placed near series capacitor banks on the TSP system may be susceptible to SSR. Wind turbine control systems may be a source of synchronous

oscillations near series capacitor banks resulting in SSI. Generator will provide studies to ERCOT and TSP that document that SSR or SSI issues have been addressed prior to commercial operation. TSP will work with Generator and their selected turbine manufacturer on any system data required for such studies.

- e) At the time of signing of the Agreement, the TSP shall conduct a reassessment of the Stability Study given the changes requested by the Generator. This also includes addressing any impact to the prior Steady State and Short Circuit Studies. The results of the study may require that the Agreement be amended to include the deployment of additional equipment to address Generator's impact at the Point of Interconnection as demonstrated by this study to reflect the requirements of this study.
- f) Other Supplemental Terms and Conditions may be necessary only to the extent Generator has not, on or prior to November 01, 2013, satisfied all applicable conditions precedent to have the Plant added to ERCOT planning models, as set forth in ERCOT Planning Guide Revision Request 018.

13) Special Operating Conditions:

- a) Quality of Power. Generator shall provide a quality of power into the TSP system consistent with the applicable ERCOT Requirements and NERC guidelines.
- b) Harmonics. The Generator's alternating current generating system must have a frequency of 60 Hz, be designed for balanced three-phase operation, not cause unreasonable imbalance on the ERCOT system or the TSP Switchyard equipment, and adhere to the recommendations in Institute of Electrical and Electronic Engineers Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems (IEEE 519), or its successor.
- c) Voltage, Frequency and Reactive Support.
  - i) Generator shall have and maintain the reactive capability as required in the ERCOT Requirements.
  - ii) Generator shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the ERCOT requirements for Low Voltage Ride Through (LVRT) capability.
  - iii) The Generator shall be equipped with both frequency and voltage controls and shall be operated in synchronism with the TSP's system with such controls in service. Generator shall notify the TSP at any such time that such controls are out of service.
- d) ERCOT Operating Arrangements. A special ERCOT-approved operating arrangement such as a Remedial Action Plan or Special Protection System may be required either prior to, or after, Commercial Operation. The terms "Remedial Action Plan" and "Special Protection System" shall have the meanings as set forth in the ERCOT Requirements. TSP and ERCOT will examine the need and feasibility of these arrangements in

cooperation with the Generator. In the event that ERCOT determines that such an arrangement is required, then TSP, ERCOT, and Generator will cooperate to design and install the necessary facilities, to be operational for the duration of the period where such Remedial Action Plan or Special Protection System may be necessary.

- e) Back-up Power during Point of Interconnection Outage. The Generator acknowledges that this Point of Interconnection may not always be available due to maintenance or other outage activities and at these times of unavailability the loss of both generator output and power delivery to the Generator will not be the responsibility of the TSP. The Generator is responsible for providing any back-up power sources that it may require due to the unavailability of this Point of Interconnection for any period of time.
- f) All other Special Operating Conditions shall be finalized at a later date, upon completing design requirements and coordination efforts with Generator.

14) The difference between the estimated cost of the TIF under 4.1.A (\$ ) and the estimated cost of the TIF under 4.1.B (\$ ) is: N/A, if applicable.

# EXHIBIT "C-1"

## CONCEPTUAL ONE-LINE OF INTERCONNECTION FACILITIES

