

Control Number: 35077



Item Number: 536

Addendum StartPage: 0

# haynesboone



March 20, 2015

Central Records Public Utility Commission of Texas 1701 N. Congress Avenue Austin, Texas 78711-3326

Attn: Filing Clerk

Subject: **PUCT Project No. 35077** Amendment No. 3 to the ERCOT Standard Generation Interconnection Agreement between South Texas Electric Cooperative, Inc. and Cameron Wind 1, LLC

Dear Sir or Madam:

Pursuant to Public Utility Commission of Texas ("PUCT") Substantive Rule §25.195(e), South Texas Electric Cooperative, Inc. ("STEC") is submitting for informational purposes four (4) copies of Amendment No. 3 to the ERCOT Standard Interconnection Agreement between STEC and Cameron Wind 1, LLC ("the Agreement"). The Amendment revises Exhibit C, Interconnection Details, to reflect changes for the type of turbines used at the Generator's facility.

Sincerely,

Patrick J. Sullivan Haynes and Boone LLP Attorneys for STEC Direct Phone Number: (512) 867-8502 patrick.sullivan@haynesboone.com

Haynes and Boone, LLF Attorneys and Counselor 600 Congress Avenue, Suite 130( Austin, Texas 78701-3285 Phone: 512 867 840( Fax 512 867,847( www.haynesboone.com

## AMENDMENT NO. 3 TO THE ERCOT STANDARD GENERATION INTERCONNECTION AGREEMENT

Between Cameron Wind I, LLC & South Texas Electric Cooperative (STEC)

For "GINR 11INR0057"---Cameron Wind

This Amendment No. 3 to the ERCOT Standard Generation Interconnection Agreement between Cameron Wind I, LLC & South Texas Electric Cooperative (STEC) for GINR 11INR0057-"Cameron Wind" (this "Amendment") is made by and between Cameron Wind I, LLC ("Generator") and South Texas Electric Cooperative, Inc., ("Cooperative") as of March 17 2015. Generator and Cooperative are each sometimes hereinafter referred to individually as a "Party" or collectively as the "Parties."

#### WITNESSETH

WHEREAS, Generator and Cooperative are parties to the certain Generation Interconnection Agreement dated as of August 9, 2013 (the "Generation Interconnection Agreement");

WHEREAS, the Generator has requested to change the generators to 55 Acciona AW3000 wind turbines; and

WHEREAS, the Cooperative has completed a Dynamic Study of these turbines and determined that installing these turbines will not affect the Cooperative's electric system: and

WHEREAS, the Parties have agreed to this change of generators; and

WHEREAS, the Parties have agreed to amend the Exhibit "C" to reflect this change; and

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants set forth herein, the Parties agree as follows:

#### **I. ADDITIONS AND AMENDMENTS**

A. Effective as of the date first written above, Exhibit "C", Interconnection Details attached hereto is hereby amended in the Generation Interconnection Agreement to reflect the documents attached hereto.

## **II. RATIFICATION OF OTHER TERMS**

All other terms and conditions of the Generation Interconnection Agreement which are not specifically amended by this Amendment shall remain unchanged and are hereby ratified by the Parties and shall continue to be in full force and effect.

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed in two (2) counterparts, each of which shall be deemed an original but both shall constitute one and the same instrument.

South Texas Electric Cooperative, Inc.

By: Mike Kezar

General Manager

Date: 3-17-2015

**Cameron Wind I, LLC** 

By: Apex South Texas Wind, LLC, its Sole Member By: Apex GCL, LLC, its Sole Member By: Apex Clean Energy Holdings, LLC, its Sole Member

di. By:

Mark Goodwin

**Title: President** 

Date: 12 March 2015

### Exhibit "C" Interconnection Details

- 1) Name: Cameron Wind 1
- 2) Point of Interconnection Location: Cameron Wind Switching Station ("Paredes") on the Central Avenue E. Rio Honda transmission line
- 3) Delivery Voltage: 138 kV
- 4) Number and Size of Generating Units: Nominal approximately 165 MW capacity comprised of approximately 55 3.0 MW Acciona AW3000 units.
- 5) Type of Generating Unit

Generator's Plant will be an approximately one hundred sixty-five MW wind energy generation facility comprised of approximately 55 3.0MW Acciona AW3000 wind turbine generators, to be constructed in a single phase with a Commercial Operation Date as specified in Exhibit "B".

6) Metering and Telemetry Equipment:

TSP shall install settlement metering, including necessary associated instrument transformers, panels, conduit, wiring, and wiring devices, in compliance with ERCOT Polled Settlement metering requirements in protocols and guides at the Point of Interconnection listed above to measure the demand and energy from Generator's facilities entering the ERCOT grid through the Point of Interconnection. TSP shall install the communications devices necessary to remotely access interval and realtime information from the metering equipment. TSP shall install only one (1) settlement metering point.

TSP will furnish, install and maintain a remote terminal unit ("RTU") and dedicated communications paths to remotely access breaker status, telemetry, and control interfaces of the TIF. This RTU will have a port available to the Generator, through Generator's communications path(s), for read only purposes.

Generator shall provide an RTU port to the TSP and a communication path so that device status, telemetry, and control interface of the GIF that TSP requests is made available to the TSP.

- 7) Generator Interconnection Facilities: The GIF will consist of a 34.5 kV to 138 kV substation with one main power transformer which will be tied to the TIF described below. Design and substation orientation and layout will be determined later.
- 8) Transmission Service Provider Interconnection Facilities:

A new switching station (the "Cameron Wind Switching Station") and rebuilding/reconductoring of the E. Rio Hondo to Central Ave. 138kV transmission line (the "System Upgrades") are

required to be complete in order to deliver the full Plant capacity and energy output to the TSP system. The Cameron Wind Switching Station and the System Upgrades are described in more detail below:

a) The Cameron Wind Switching Station shall include the following:1) Substation

(i) 138 kV Circuit Breakers (3)

(ii) Air Break Switches

(iii) 138 kV Metering Units,

(iv) 138 kV, Surge Arresters

- (v) Station Post Insulators
- (vi) Galvanized Steel Structures, Equipment Foundations, and Associated

Bus-Work, Conductor, Connectors, Grounding. etc.

(vii) The station shall have three line terminals, with one terminal connecting the 138kV line going to Central Ave substation, one terminal going to the E. Rio Hondo substation and one terminal for use by the Cameron Wind generating station.

2) Relaying

\* \*\*

(i) Circuit Breaker Control Panels

(ii) Motor Operated Disconnect Switch Control Panel if applicable

(iii) Circuit Breaker Failure Protection Scheme

(iv) Line Protection Scheme

(v) Control building for housing panel and relays

3) All other TSP Interconnecting Facility requirements shall be finalized at a later date, upon completing design requirements and coordination efforts with Generator

b) System Upgrades shall include the following:

i) The rebuilding/reconductoring of the E. Rio Hondo to Central Ave. 138 kV transmission line with at least 795 ACSR conductor to accommodate the generating capacity of 165 MW, to be delivered onto the 138 kV transmission line, in accordance with ERCOT transmission planning criteria.

9) Communications Facilities:

(a) The communications facilities described below will be owned by Generator:

(i) 1- dedicated voice dispatch circuit from Generator's control center to

TSP's Nursery, TX dispatch center;

(ii) 1 - 2 wire telecommunication dial-up line, including associated interface;
equipment at the Generator Substation for the dynamic and fault recorder if applicable.
(iii) 1-4 wire RTU communication circuit between the Generator Substation and TSP's

Master SCADA system at TSP's Nursery, 1X dispatch center;

(iv) 1- telephone company interface box at the Generator

Substation if applicable; and

(v) optical isolation equipment for the telephone communication circuits, if

required by the local telephone company.

(b) The communications facilities described below are owned by TSP:

(i) 1- 2 wire telecommunication dial-up line or equivalent, including associated interface equipment at the Cameron Wind Switching Station for the revenue billing meters. Generator shall have dial-up, read only access to the revenue billing meters.

(c) All communication facilities shall meet the following TSP requirements in addition to ERCOT Requirements. If there is a conflict between the TSP requirements below and the ERCOT Requirements, the ERCOT Requirements shall govern.

(i) Generator shall be responsible for confirming with TSP the project specific circuit requirements and requesting specific TSP addresses and TSP contact names in preparation for issuing communication circuit orders with Generator's telecommunication service provider of choice. These communication channel(s) may be leased telephone circuit, microwave, fiber optics or other media satisfactory to TSP. For telephone company circuits leased by Generator, Generator shall provide TSP and the communication provider with the necessary advanced authorization for communication circuit maintenance, allowing TSP to monitor circuits, report trouble and take corrective action with the communication provider, at Generator's expense.

(ii) The RTU communications circuit will be a dedicated lease circuit from the RTU to TSP's dispatch office; this circuit is to be ordered by Generator. One circuit is required for each RTU. This circuit will be a Bell type 4-wire (420) analog circuit or better.

(iii) The voice dispatch circuit will be a dedicated lease circuit from the Plant operators to TSP's dispatch office. If the Plant operator is not located on the Plant site, then the circuit must be terminated at the actual location of the Plant operators. This circuit is required of Generator where the total Plant generation capacity is equal to or greater than 50 MVA. This circuit is to be ordered by Generator. All telephone company services are subject to the local telephone company's installation requirements.

10) System Protection Equipment:

Protection of each Party's system shall meet the following TSP requirements in addition to ERCOT requirement. If there is a conflict between the TSP requirements below and the ERCOT requirements, the ERCOT requirements shall govern.

- i) TSP assumes no responsibility for the protection of the Plant and GIF for any or all operating conditions. Generator is solely responsible for protecting his equipment in such a manner that faults of other disturbances of the TSP system or other interconnected systems do not cause damage to the Plant and GIF.
- ii) It is the sole responsibility of the Generator to protect its Plant and GIF from excessive negative sequence currents.
- iii) Generator shall furnish, at a minimum, a manual disconnect switch with visual contacts and allowance for padlocking, to separate the Plant and GIF from TIF. The location of this switch will be determined by TSP, and be readily accessible to TSP at all times. The disconnect switch will be under the exclusive control of

TSP and will be considered as part of TSP's switching arrangement. TSP reserves the right to open this disconnecting device, isolating the Plant and GIF for any of the following reasons:

- The Plant or GIF, upon TSP's determination, causes objectionable interference with other customer's service or with the secure operation of the TSP System;
- 2) The Plant output as determined by TSP exceeds the operating boundaries outlined above; or
- 3) The Generator's control and protective equipment causes or contributes to a hazardous condition. TSP reserves the right to verify on demand all protective equipment including relays, circuit breaker, etc. at the inter-tie location. Verification may include the tripping of the tiebreaker by the protective relays.

TSP will attempt to notify Generator before disconnection, but notification may not be possible in emergency situations that require immediate action.

- iv) Automatic reclosing is normally applied to transmission and distribution circuits. When the TSP's source breakers trip and isolate the Plant and GIF, Generator shall insure that the Plant and GIF is disconnected from the TSP circuit prior to automatic reclosure by TSP. Automatic reclosing out-of-phase with the Plant may cause damage to Generator's equipment. The Generator is solely responsible for the protection of his equipment from automatic reclosing by TSP.
- Digital fault recorders will be an integral part of the protection relays. They will be paid for, owned and installed by TSP. . All digital fault recorders shall be equipped with time synchronizing equipment. The monitoring requirement of TSP does not reduce the Generator's obligation to meet all disturbance monitoring requirements of NERC.
- vi) Documentation of all protective device settings shall be provided. The setting documentation shall also include relay type, model/catalog number and setting range. If automatic transfer schemes or unique or special protective schemes are use, a description of their operations should be included and TSP must review and approve the setting of all protective devices and automatic control equipment which: (1) serve to protect the TSP System from hazardous currents and voltages originating from the Plant or (2) must coordinate with System Protection Equipment of control equipment located on the TSP System.

11) Inputs to Telemetry Equipment:

Generator shall comply with TSP's requested list of device status, alarms, control interface, and meter data to make available to the TSP RTU including such information for any Generator owned transmission terminal and generator step up (GSU) transformer.

12) Supplemental Terms and Conditions, if any, attached:

The following supplemental terms and conditions shall be met unless there is a conflict between these terms and conditions and the ERCOT Requirements, in which case the ERCOT Requirements shall govern.

- a) If this Agreement is executed at Generator's request prior to ERCOT's approval of the TIF and ERCOT does not approve the TIF, Generator and TSP will work together to mitigate as much as possible the impact of such ERCOT decision.
- b) The Plant and GIF shall not cause objectionable interference with the electric service provided to other customers by TSP nor jeopardize the security of the ERCOT power system. In order to minimize objectionable interference of the Plant and GIF, the Plant and GIF shall meet the following criteria:
  - Voltage The Plant and GIF shall not cause excessive voltage excursions. Generator shall operate its Plant and GIF in such manner that the voltage levels on the TSP System are in the same range as if the Plant and GIF were not connected to the TSP system. Generator shall provide an automatic method of disconnecting its Plant and GIF from the TIF to protect against excessive voltage excursions;
  - Flicker The Plant and GIF shall not cause excessive voltage flicker on the TSP System. Flicker is to be measured at the Point of Interconnection and shall not exceed 1.5% or the Borderline of Visibility Curve Voltage Flicker Chart of ANSI/IEEE Standard 141-1993, whichever is less;
  - iii) Frequency The operating frequency of the Plant shall not deviate from the frequency of the TSP System. Plant under frequency relays shall be set the same as TSP's under frequency relays, so that the Plant will not separate from the TSP System during under frequency conditions until all of TSP's under frequency load shedding equipment has operated;
  - iv) Harmonics, Telephone Interference and Carrie Interference The Plant and GIF shall not introduce excessive distortion of the TSP System waveforms; voltage and current; telephone interference; or carrier interference at the Point of Interconnections. IEEE Standard 519 shall be used as a guide;
  - v) Fault and Line Clearing The Plant and GIF shall be disconnected from the TSP System on occurrence of an outage or fault on the TIF. Generator is responsible for the electrical stability of its Plant and providing adequate facilities so that critical fault clearing times are met; and
  - vi) Power Factor The generator voltage-var schedule, voltage regulator, and transformer ratio settings will be jointly determined by TSP and Generator to ensure proper coordination of voltages and regulator action. The Plant must generate reactive requirements for the Plant and GIF. The power factor of induction generators of renewable resources will be limited by the design of the generator and the quantity of reactive power that the Plant will be required to supply will be limited to that which it can produce at its rated capability using procedures and criteria as described by ERCOT Requirements. Current ERCOT Requirements require induction generators shall operate at least 0.95 lag and 0.95 lead at the Point of Interconnection.
- c) Generator shall not energize a de-energized TIF circuit, unless under direction of TSP.
- d) Generator will be responsible at its cost to perform analyses to determine any adverse effects of sub-synchronous resonance (SSR) and self excitation upon its Plant. TSP will provide Generator any necessary transmission system data not considered by ERCOT to be confidential. Generator is responsible, it its cost, to modify Plant's control system to

mitigate any adverse affects discovered in its analyses. Generator aggress to hold TSP and its Affiliates harmless for any adverse affects upon the Plant that are discovered in either the Generator's, ERCOT's, or TSP's analyses.

13) Special Operating Conditions, if any, attached: TBD

44 - 44

14) The difference between the estimated cost of the TIF under 4.1.A (\$17,010,001) and the estimated cost of the TIF under 4.1.B (\$17,010,001) is: \_\_\$0, if applicable.