

Control Number: 35077



Item Number: 765

Addendum StartPage: 0

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PUBLIC UTILITY COMMISSION
FILING CLERK

November 1, 2017

VIA FEDERAL EXPRESS

Filing Clerk

Public Utility Commission of Texas

1701 N. Congress Avenue

P.O. Box 13326

Austin, Texas 78711-3326

RE: Project No. 35077 – *Information filing of ERCOT Interconnection Agreements Pursuant to SUBT. R. §25.195(e)*

TO THE FILING CLERK:

Enclosed for filing are ten (10) copies of Amendment No. 1, dated February 23, 2017, ("Amendment No. 1") to the ERCOT Standard Generation Interconnection Agreement ("SGIA") between Brazos Electric Power Cooperative, Inc. ("Brazos Electric") and Buckthorn Wind Project, LLC ("Buckthorn") dated September 10, 2015 (the "Buckthorn SGIA"). One copy is provided without binding, staples, tabs or separators for scanning purposes. Brazos Electric is filing Amendment No. 1 with the Public Utility Commission of Texas ("Commission") pursuant to Substantive Rule 25.195(e).

Amendment No. 1 for the Buckthorn SGIA revises and restates Exhibits "B", "C", and "D" to reflect some changes in the schedule for the In-Service Date, the facilities to be constructed and installed, and the parties contact information.

Please place your "Received" mark upon the extra copy of the Amendment No. 1 and return it in the enclosed self-addressed, stamped envelope.

Please contact me if the Commission needs any further information.

Yours truly,



Bill Spears

Enclosure

Cc: Johnny York
Philip Segrest

765

**AMENDMENT NO. 1 TO
INTERCONNECTION AGREEMENT
DATED SEPTEMBER 10, 2015**

This Amendment No. 1, dated as of ~~2-23~~, 2017, ("**Amendment No. 1**") amends the Standard Generation Interconnection Agreement between Brazos Electric Power Cooperative, Inc. ("**Brazos Electric**") and Buckthorn Wind Project, LLC ("**Buckthorn Wind**") dated as of September 10, 2015, (the "**Agreement**"). Brazos Electric and Buckthorn Wind are hereinafter individually referred to as "Party," and collectively referred to as the "**Parties**". Capitalized terms used in this Amendment No. 1 and not otherwise defined herein shall have the meanings specified for such terms in the Agreement.

In consideration of the mutual promises and undertakings herein set forth, the Parties hereby agree as follows:

1. Exhibit "B" of the Agreement shall be deleted in its entirety and replaced with the attached Exhibit "B".
2. Exhibit "C" of the Agreement shall be deleted in its entirety and replaced with the attached Exhibit "C".
3. Exhibit "D" of the Agreement shall be deleted in its entirety and replaced with the attached Exhibit "D".
4. Each Party hereby represents and warrants to the other Party hereto that the execution, delivery and performance hereof by it are within its corporate powers, and have been duly authorized by all necessary corporate or other action and that this Amendment No. 1 constitutes its legal, valid and binding obligation.
5. Except as otherwise expressly provided for herein, the Agreement shall continue in full force and effect in accordance with its terms. This Amendment No. 1 constitutes the entire agreement and understanding of the Parties with respect to its subject matter and supersedes all oral communications and prior writings (except as otherwise provided herein) with respect thereto.
6. This Amendment No. 1 will be governed by and construed in accordance with the laws of the State of Texas (without reference to choice of law doctrine).
7. This Amendment No. 1 may be executed and delivered in counterparts, all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the Parties have caused this Amendment to be executed effective as of the date set forth above.

Brazos Electric Power Cooperative, Inc.

By: Clifton B. Karnei
Clifton B. Karnei 91
DA

Title: Executive Vice President &
General Manager

Buckthorn Wind Project, LLC

By: Craig Cornelius
Craig Cornelius

Title: President

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) ☐ good faith negotiations, or (2) ☐ Designated by Generator upon failure to agree.

Date by which Generator must provide notice to proceed with design and procurement and provide security, as specified in Section 4.2, so that TSP may maintain schedule to meet the In-Service Date: 9/3/2015

Date by which Generator must provide notice to commence construction and provide security, as specified in Section 4.3, so that TSP may maintain schedule to meet the In-Service Date: 9/3/2015

In - Service Date(s): 6/30/2017

(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: 6/30/2017

Scheduled Commercial Operation Date: 11/1/2017

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.

Exhibit “C”
Interconnection Details

1. **Name:** Buckthorn Wind
2. **Point of Interconnection location:** The point at which the GIF interfaces with the TIF in Brazos Electric’s Jaybird Substation (“Station”), as shown in the attached one-line diagram. The Station is located approximately 14 miles north of Stephenville 138 kV in Erath County, Texas. Such point will be the location at which the jumpers from the TIF connect to the GIF at the deadend tower located in the Station.
3. **Delivery Voltage:** 138 kV
4. **Number and size of Generating Units:**
Nominal 100.5 MW total Plant capacity comprised of 26 Vestas V126 wind turbines rated at 3.45 MW each and three (3) Vestas V117 wind turbines rated at 3.6 MW each.
5. **Type of Generating Unit:**
Wind Turbines
6. **Metering and telemetry equipment:** Metering (voltage, location, losses adjustment due to metering location, and other), telemetry, and communications circuits:
 - a) TSP shall, in accordance with ERCOT Requirements and Good Utility Practice, procure install, own, operate, inspect, test, calibrate and maintain 138 kV metering accuracy potential and current transformers and associated metering and telemetry equipment (including an RTU) located in the Station, as indicated in the one-line diagram attached to this Exhibit “C”.
 - b) Generator shall, in accordance with ERCOT Requirements and Good Utility Practice, procure, install, own, operate, inspect, test, calibrate and maintain the metering and telemetry equipment (including an RTU or other equipment acceptable to TSP) to supply all electrical parameters of the Generator’s Plant and GIF, as specified in this Exhibit “C”, to TSP in accordance with item (c) below.
 - c) Generator shall, in accordance with ERCOT Requirements and Good Utility Practice, provide communications facilities that are, or may in the future be, necessary for the effective operation of the Generator’s Plant and the Transmission System. Generator will directly make arrangements to procure and will bear the procurement, installation, maintenance, and ongoing costs of such facilities.
7. **Generator Interconnection Facilities:** The GIF shall be installed, owned and operated by the Generator at the Generator’s expense and consist of the facilities shown in the attached one-line diagram, including the following:

Switchyard Equipment - the following list of major switchyard equipment will be necessary for the operation of the 138 kV switchyard at the Generator’s Plant:

- (Lot) Circuit breaker, 138 kV, 2000 amperes, with 2 sets of 2000/5, C800 MRCTs for line current differential relaying.
- (Lot) Switches, air break, 138 kV, 2000, amperes, gang operated, 3 phase.
- (Lot) CCVTs, 138 kV, dual secondary windings as required for Generator metering and relaying
- (1 ea.) Step-up unit transformer to convert generator voltage to 138 kV
- (1 ea.) Supervisory equipment, SCADA RTU
- (Lot) Metering, telemetry, and communications equipment
- (2 ea.) Relay panels (differential and line)
- (Lot) 0.1 mile (approximate) 138 kV single-circuit transmission line with a single circuit in place from the Generator's 138 kV switchyard to the Station.
- (Lot) Associated structures, including deadend, buswork, conductor, connectors, grounding, conduit, control cable, foundation work, perimeter fencing, grading/dirt work and any appurtenances necessary for construction of the GIF.

The above list is not intended to be a complete list of all facilities that are part of the GIF.

8. **Transmission Service Provider Interconnection Facilities:** The TIF shall be installed, owned and operated by the TSP at the TSP's expense and include the facilities shown in the attached one-line diagram and shall consist of the following:

Switching Station

- (3 ea.) Circuit breaker, 138 kV, 3000 amperes, 40 kA
- (7 ea.) Switch, air break, 138 kV, 2000 amperes, gang operated, 3-phase
- (3 ea.) Switch, air break, 138 kV, 2000 amperes, motor operated, 3-phase
- (12 ea.) CCVTs, 138 kV, dual secondary windings for relaying
- (2 ea.) Power PTs
- (1 lot) Surge arresters, 138 kV
- (1 lot) EPS metering including current and potential transformers for metering and relaying
- (1 ea.) Supervisory equipment, SCADA RTU
- (5 ea.) Breaker control/relay panels
- (1 ea.) Control house w/ battery set and associated indoor accessories
- (1 ea.) Communication tower
- (1 lot) All galvanized steel structures, including deadend, switch stands, metering structures, surge arrester supports, CCVT supports, PT supports, static masts, and bus supports necessary for construction and operation of the Station
- (1 lot) Associated buswork, conductor, connectors, grounding, conduit, control cable, foundation work, perimeter fencing, grading/dirt work and any appurtenances necessary for operation of the transmission facilities

Property as needed to accommodate the Station

Existing 33.7 mile Miller to Stephenville S.S. 138 kV transmission line

("Existing Line") and any transmission modifications necessary to terminate such Existing Line into the Station.

The above list is not intended to be a complete list of all facilities that are part of the TIF.

9. **Communications Facilities:**

- a) The TSP shall provide to the Station a phone circuit for the EPS meter data acquisition, a communications circuit for TSP's SCADA RTU, and, if required, a phone circuit for TSP's protective relaying.
- b) The Generator shall provide necessary communications facilities at Generator's expense, for the effective operation of its facilities as required in Items 6-b) and 6-c) above

10. **System Protection Equipment:** Refer to Section 5.6 and the following:

- a) The Generator's Plant and GIF shall be designed to isolate any fault, or to correct or isolate any abnormality that would negatively affect the ERCOT System. Generator shall be responsible for protection of its facilities.
- b) The Generator's Plant and GIF shall have protective relaying that is consistent with the protective relaying criteria as described in ERCOT Requirements and NERC standards. If requested by 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.
- c) Generator shall install sufficient digital fault recording equipment to thoroughly analyze all system disturbances of the ERCOT System in the immediate area. 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.
- d) Prior to modifying any relay protection system design or relay setting involving the GIF that may impact the TIF, the Generator shall submit the proposed changes to 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 System.
- e) TSP shall determine requirements for protection of the Point of Interconnection and the zone of protection around the Point of Interconnection and shall specify and implement protection and control schemes as necessary to meet such requirements. Generator shall have the right to review and comment on the necessary protection requirements and TSP shall consider Generator's comments when determining such requirements. TSP shall coordinate the relay system protection between Generator and the ERCOT System.
- f) If the GIF facilitate the interconnection of any of the generators at the Plant to the SPP (or any other reliability council other than ERCOT), Generator will utilize open circuit breakers and air-break switches (which provide visible open indication) as a means of isolating such generators from ERCOT.

- g) Generator will design, construct, and operate its electrical facilities such that all unit auxiliary power sources will come from the same reliability council as the unit output is connected.
- h) The wind turbines will have low voltage ride through capability in accordance with the ERCOT Requirements.

11. **Inputs to Telemetry Equipment:**

Each 138 kV breaker: Status indication, three phase megawatts and three phase megavars.

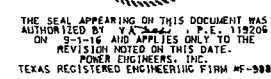
Each 138 kV bus: A, B, C phase voltages

12. **Supplemental Terms and Conditions:**

- a) Generator's new approximately 0.1 mile transmission circuit route may come near, or cross, and require modifications to other TSP's transmission line(s) and/or other distribution service provider's distribution line(s). The Generator will be responsible for the cost of such crossings and/or modifications.
- b) Notwithstanding any provision in the Agreement to the contrary, if the PUCT issues a final, appealable order excluding from TCOS any portion of the transmission costs incurred by Brazos Electric for the TIF which the PUCT (i) finds may otherwise have been reasonably incurred but should not be recovered through transmission rates or (ii) the PUCT disallows because they were incurred as a direct result of meeting the In-Service Date of the requested interconnection, the Generator shall bear and reimburse such costs to Brazos Electric within ninety (90) days from the date of such PUCT order. In the event and to the extent that such order is modified and such costs are included in TCOS, Brazos Electric will reimburse such included costs to the Generator within ninety (90) days after the order allowing such costs to be included, with interest, in TCOS becomes final and unappealable, where such interest shall accrue until the day the refund is received by the Generator and be calculated as simple interest equal to the U. S. Prime Rate as quoted in the Money Rates section of *The Wall Street Journal* plus 2% per annum, provided however, such simple interest shall never exceed the maximum rate allowed by applicable law.
- c) Metering equipment and telemetry shall at all times be in accordance with ERCOT requirements. Temporary exemptions shall not be allowed.

13. **Special Operating Conditions:**

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 the 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 Scheme may be necessary. This Agreement will be amended to document such arrangement.



Sheet No.: G4

DATE: 2/9/2017

Exhibit "D"
**Notice and EFT Information of the ERCOT Standard Generation
Interconnection Agreement**

(a) All notices of an *operational* nature shall be in writing and/or may be sent between the Parties via electronic means as follows:

If to Brazos Electric

Brazos Electric Power Cooperative, Inc.
Attn: Tony Kroskey
Address: 7616 Bagby Ave PO Box 2585
City, State, Zip: Waco, TX 76712-6923
24 Hour Telephone: (254) 750-6260
E-mail: tkroskey@brazoselectric.com

If to NRG Energy, Inc.

Buckthorn Wind Project, LLC
Attn: Tim Sheppard
Address: 4900 N. Scottsdale Rd. Suite 5000
City, State, Zip: Scottsdale, AZ 85251
24 Hour Telephone: 480-424-1680 (1681) (1682)
E-mail: Timothy.Sheppard@nrg.com

(b) Notices of an *administrative* nature:

If to Brazos Electric
Brazos Electric Power Cooperative, Inc.
Attn: David Albers
Address: 7616 Bagby Ave PO Box 2585
City, State, Zip: Waco, TX 76712-6923
Phone: (254) 750-6358
E-mail: dalbers@brazoselectric.com

If to NRG Energy, Inc.
Buckthorn Wind Project, LLC
Attn: Regional General Counsel
Address: 5790 Fleet Street, Suite 200
City, State, Zip: Carlsbad, CA 92008
Phone: 760-710-2187
E-mail: Jennifer.Hein@nrg.com

(c) Notice for *statement and billing* purposes:

If to Brazos Electric
Brazos Electric Power Cooperative, Inc.
Attn: Brent Fox
Address: 7616 Bagby Ave PO Box 2585
City, State, Zip: Waco, TX 76712-6923
Phone: 254-750-6240
E-mail: bfox@brazoselectric.com

If to NRG Energy, Inc.
Buckthorn Wind Project, LLC
Attn: Chris Barker
Address: 100 California Street, Suite 400
City, State, Zip: San Francisco, CA 94111
Phone: 415.627.1635
E-mail: Chris.Barker@nrg.com

(d) Information concerning Electronic Funds Transfers:

If to Brazos Electric:
Bank Name: Bank of America
City, State: Dallas, TX
ABA Routing No.: 026009593
for credit to
Brazos Electric Power Cooperative, Inc.
Account No.: 004770496398

If to NRG Energy, Inc.
Bank Name: _____
Bank Address: _____
For the credit of NRG Energy, Inc.
ABA Routing Number _____, Account No.: _____