

Control Number: 35077



Item Number: 891

Addendum StartPage: 0

35077

AMENDMENT TO THE ERCOT STANDARD GENERATION INTERCONNECTION AGREEMENT

This Amendment (this "Amendment") to the ERCOT Standard Generation Interconnection Agreement (including all exhibits thereto, the "SGIA") is made by **PEYTON CREEK WIND FARM, LLC** ("Peyton Creek"), an Delaware limited liability company, and **CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC** ("CenterPoint Energy"), a Texas limited liability company, (collectively, the "Parties") and effective as of May 25, 2018. Capitalized terms used in this Amendment and not otherwise defined herein are defined in the SGIA.

The Parties agree as follows:

- 1. The SGIA is amended as of May 25, 2018 by replacing Exhibit C thereto with the Exhibit C attached to this Amendment.
- 2. Except as modified by this Amendment, the provisions of the SGIA will continue in full force and effect in accordance with its terms.

IN WITNESS WHEREOF, the Parties have executed this Amendment as of the date first written above.

PEYTON CREEK WIND FARM, LLC

By:______ Title: <u>Sr. Vice President</u>

Date: 11/13/18

CENTERPOINT ENERGY HOUSTON

ELECTRIC, LLC rdent & CED Title: R Date:





`

Exhibit "C" Interconnection Details

- 1) Name: Peyton Creek Wind ("Plant")
- 2) Point of Interconnection Location
 - A) Generator side of TSP's terminating structure(s) inside TSP's REFUGE Substation, located approximately 0.5 miles east of the intersection of FM 521 and Willow Run Rd., Matagorda County, Texas.
- 3) Delivery Voltage: 345 kV
- 4) Number and Size of Generating Units
 - A) Plant will be comprised of forty-eight (48) each of 3.15 MW wind turbine generators with a total net rating of approximately 151 MW ("Planned Capacity"), which is projected to be the Plant's Net Dependable Capability, as defined by ERCOT Requirements.
- 5) Type of Generating Unit
 - A) Acciona 3.15 MW Type 3 wind turbines. Each electric generating wind turbine unit has its own 12 kV 34.5 kV wind turbine step-up transformer.
 - 1) The winding configuration for this transformer is 12 kV wye grounded, 34.5 kV delta.
 - B) The (1) 34.5-345 kV step-up transformer will have a 345 kV circuit breaker for isolation from the REFUGE Substation.
 - 1) The winding configuration for this transformer is 34.5 kV wye grounded, 345 kV wye grounded with an embedded delta connected tertiary winding.
 - C) Electrical characteristics of Plant's generating unit(s) shall be in accordance with the most recent version of data that Generator has provided to TSP and shall be consistent with data provided to ERCOT.
 - D) Each step-up, standby and auxiliary transformer that is directly connected at 345 kV will have a circuit breaker for isolation from the TIF.
- 6) Metering and Telemetry Equipment
 - A) TSP shall provide and install ERCOT Polled Settlement (EPS) primary and check meters, 345 kV instrument transformers and associated wiring required for measuring the output of the Plant's generation and auxiliary electrical load at TSP's REFUGE Substation. The 345 kV metering instrument transformers for the EPS metering shall be procured by TSP and owned, maintained and replaced by TSP. TSP shall install and maintain the metering system's components in a manner consistent with ERCOT Requirements and the PUCT Substantive Rules. TSP shall install RS485 communication circuits between the EPS metering and the TSP Supervisory Control & Data Acquisition ("SCADA") Remote Terminal Unit ("RTU"). These communication circuits will transfer primary and backup meter data to the TSP RTU such that EPS metering data will be available to the Generator through TSP's RTU in accordance with 6B. TSP shall provide a port in TSP's RTU for Generator. Generator shall provide a port for TSP at Generator's RTU.
 - B) TSP shall furnish a substation SCADA RTU at the REFUGE Substation. The RTU will be multi-port equipped and operate with protocols compatible with TSP. The RTU will be

equipped to monitor the REFUGE Substation as outlined in Paragraph 11 and control circuit breakers in the REFUGE Substation. TSP shall also furnish the RTU inputs, such as contacts and transducers, in the REFUGE Substation. Selected real-time data of the REFUGE Substation will be available at TSP's RTU for Generator's use. TSP's RTU will be equipped with a MODBUS or DNP-3 "Slave" serial communication port for this purpose. Generator shall furnish the fiber optic cable between the REFUGE Substation and the Plant RTU or DCS "Master" serial communication port for this purpose.

- C) Generator shall furnish Plant data to TSP's RTU communication port at the REFUGE Substation as referenced in Paragraph 11 below. The Generator's RTU/DCS shall be equipped with a MODBUS or DNP-3 "Slave" serial communication port for this purpose. Generator shall furnish the fiber optic cable between the Plant and the REFUGE Substation RTU "Master" serial communication port for this purpose. TSP is not responsible for providing Plant data to ERCOT.
- 7) Generator Interconnection Facilities (GIF)
 - A) Generator shall construct, operate, and maintain a complete generation facility capable of generating the Planned Capacity, including, but not limited to, all generators, power system stabilizers, wind turbine control systems, generator step-up transformers, protective devices, other transformers and associated foundations, terminating structures, all relays necessary for the protection, synchronization and coordination of the generators, generator auxiliary equipment and the disconnect switches and foundations at the Plant.
 - B) Generator shall furnish, own and maintain the connection from Plant's equipment to TSP's terminating structure at the Point of Interconnection, including phase conductors, static conductors, fiber optic cables, structure(s), foundations, tower fittings, suspension insulators, terminating clamps and line conductor terminal fittings with NEMA standard four-hole flat pads for attachment to the NEMA four-hole pads on TSP's disconnecting device.
 - C) TSP shall provide to Generator the TSP's alpha/numeric identifiers for incoming 345 kV transmission lines and shall provide TSP's alpha/numeric identifiers for high voltage circuit breakers, switches, power transformers, generators and certain low side equipment and the TSP's assigned 6-character substation identification for the GIF ("PEYTON"). The GIF high voltage circuit breakers, switches, transformers, generators and certain low side equipment, including 34.5kV feeder breakers, shall be identified with TSP's identifiers. TSP will develop a substation basic one-line diagram that includes these identifiers. TSP or the Generator shall mark these identifiers on the substation equipment. TSP may stencil identification numbers on substation equipment and mount signs, labels, drawings, telephone numbers, and instructions on the GIF. The Generator shall use TSP's assigned substation ID, and equipment identifiers in discussions with TSP.
 - D) Generator shall provide, design and install the Plant's terminating structure(s) and foundations, inside Generator's PEYTON Substation, in accordance with Generator's phase conductors, static wires and fiber optic cable loading requirements.
 - E) Generator shall provide two separate single mode 1300 nm fiber optic communication cables for communication, instrumentation and protective relaying circuits of sufficient length to connect from Plant to TSP's fiber termination panel at REFUGE Substation.
 - F) Generator shall connect its generating Plant ground mat to Generator's transmission tower static wires at the Plant's terminating structure(s). TSP shall connect its REFUGE

Substation ground mat to Generator's transmission tower static wires at the terminating structure(s) located at the Point of Interconnection.

- G) Electrical characteristics of Plant's Generator Interconnection Facilities shall be in accordance with the most recent version of TSP's "Specification for Customer 138 kV Substation Design", and in particular, the section pertaining to "Generation", but only to the extent the "Specification for Customer 138 kV Substation Design" is applicable to a 345 kV substation design attached hereto as Exhibit "I", and TSP's most recent version of minimum acceptable electrical, mechanical, and structural design characteristics for 345 kV interconnection substation construction attached hereto as Exhibit "J".
- H) Generator shall provide the 34.5-345 kV step-up transformer with a 345 kV circuit breaker and disconnect switch for isolation from the REFUGE Substation.
- Generator shall convey to TSP, at no cost or expense to TSP, fee simple title to the area which encompasses REFUGE Substation and adjacent detention facilities for storm water runoff, as shown in Exhibit "H" or as mutually agreed upon by Generator and TSP, with no restrictions or reservations that interfere with access to or the operation of the REFUGE Substation or adjacent detention facilities.
- J) Generator shall convey to TSP, at no cost or expense to TSP, perpetual, non-exclusive, unobstructed ground and aerial easements, in a form acceptable to TSP, for a 345 kV transmission line extension from TSP's existing 345 kV electric transmission right-of-way to the REFUGE Substation, which shall be no less than two hundred twenty feet (220') wide.
- K) Generator shall own, and maintain all protective relays, instrument transformers, instrumentation, and control equipment physically located on Plant side of the Point of Interconnection.
- L) Generator shall provide factory tested positive, negative and zero sequence impedance data, useful for short circuit modeling purposes, for all winding-to-winding combinations of the three winding 345 kV/34.5 kV/embedded tertiary, generator step-up transformer.
- 8) TSP Interconnection Facilities (TIF)
 - A) TSP shall complete its entire scope of work on the REFUGE Substation (except for Punch List Items) including, but not limited to, bus works, supports, structures, circuit breakers, disconnect switches, relays, and other equipment necessary for protection and coordination, controls, and wiring all as necessary to provide an interconnection between Plant's generation facilities and TSP's System; energize the same, and interconnect with Plant, all as provided herein.
 - Punch List Items are defined as those non-material items of work that remain to be performed in order to ensure full compliance with this Agreement. Punch List Items do not include any items of work, alone or in the aggregate, non-completion of which (i) prevents the REFUGE Substation from being used for its intended purposes as described in this Agreement or in accordance with applicable laws; (ii) prevents the REFUGE Substation from being legally, safely, and reliably placed in commercial operation; or (iii) in the exercise of reasonable engineering judgment could have an adverse effect on the operation, efficiency, or reliability of the REFUGE Substation, or its ability to transmit the Plant's power to the ERCOT grid.
 - B) TSP shall furnish, own, and maintain the connection from REFUGE Substation to TSP's transmission system.

- C) TSP shall develop and install transmission improvements that it determines, in its sole discretion, are foreseeable and reasonably necessary to safely, reliably, and economically integrate the Plant into the TSP's Transmission System. TSP MAKES NO PROMISE, REPRESENTATION, OR WARRANTY AS TO WHETHER THE TSP'S TRANSMISSION SYSTEM WILL BE FREE OF CONSTRAINTS AT ANY TIME, INCLUDING BUT NOT LIMITED TO TIMES WHEN THE TRANSMISSION IMPROVEMENTS UNDER THIS AGREEMENT ARE BEING MADE OR AFTER THEIR COMPLETION.
- D) TSP shall construct the REFUGE Substation as shown on the drawing entitled "Basic Offer CenterPoint Energy 345 kV Development Plan For Peyton Creek Wind Generation Project Standard Generator Interconnection Agreement" dated 02/26/2018 ("REFUGE Substation Development Plan").
- E) TSP shall provide NEMA four-hole pads on Generator side of TSP's terminating structure at the Point of Interconnection for connection to NEMA four-hole pads on Generator's connecting conductors. TSP shall make connection between Generator's NEMA four-hole pads on connecting conductors and TSP's disconnecting device.
- F) Generator shall convey to TSP, at no cost or expense to TSP, perpetual, non-exclusive, unobstructed ground and aerial easements, in a form acceptable to TSP, for the line extension from TSP's existing 345 kV electric transmission right-of-way to the REFUGE Substation, which shall be no less than two hundred twenty feet (220') wide.
- G) TSP shall only be responsible for pulling fiber optic communication cables from the TSP's terminating structure, at the Point of Interconnection, to inside the REFUGE Substation control house. TSP will assume ownership of the fiber optic communication cables from the TSP's fiber optic splice box located at the terminating structure(s), at the Point of Interconnection, to inside the REFUGE Substation control house. TSP will be responsible for terminating fiber optic communication cables within the REFUGE Substation control house.
- 9) Communications Facilities
 - A) All facilities provided under TSP's obligations in this Paragraph 9 shall be considered part of the TIF. All facilities provided under Generator's obligations in this Paragraph 9 shall be considered part of the GIF.
 - B) TSP shall order, maintain and provide at TSP's expense a communication circuit for realtime data transmittal via SCADA equipment from the REFUGE Substation to TSP's Energy Management System.
 - C) TSP shall order, maintain, and provide at TSP's expense a communication circuit for the EPS meters at the REFUGE Substation.
 - D) Generator shall provide and terminate a fiber optic communication interface device on its end of the fiber and TSP will provide and terminate a fiber optic communication interface device on its end of the fiber associated with the RTU inputs between Plant and the REFUGE Substation.
 - E) Generator shall furnish RTU inputs identified in Exhibit "C", Paragraph 11)A) from the Plant to the REFUGE Substation's communication interface point.
 - F) TSP shall furnish RTU inputs identified in Exhibit "C", Paragraph 11)B) from REFUGE Substation to Plant's communication interface termination point.

- G) Generator shall provide a voice telephone extension outlet in close proximity to Plant's relay panel that is located within the Plant. Such telephone extension outlet shall be connected to the local exchange carrier's telephone system; however, the telephone extension outlet may be connected to Plant's internal telephone system, provided Plant's internal telephone system is equipped with an uninterruptible power supply system.
- H) Generator shall provide two separate single mode 1300 nm fiber optic communication cables, typically 72 fibers per cable ("optical grounded wire" or "OPGW"), of sufficient length to connect from Plant to the REFUGE Substation fiber termination panel. Generator will stop at TSP's terminating structure(s) located at the Point of Interconnection and provide enough OPGW cable slack between TSP's terminating structure(s) and TSP's REFUGE Substation fiber termination panel. TSP shall own the fiber optic communication cables from the TSP's fiber optic splice box(es) located at the terminating structure(s), at the Point of Interconnection, to inside the REFUGE Substation control house. TSP shall take the fiber optic cables into the REFUGE Substation.
- 10) System Protection Equipment
 - A) Generator shall provide two sets of multi-ratio 4000/5 protective relaying accuracy (C800) current transformers on Generator's 345 kV circuit breakers associated with the protective relaying between Plant and the REFUGE Substation. Each set of current transformers will provide signals to independent sets of primary and backup protective relays for the interconnecting lead between the GIF and the REFUGE Substation. The primary and backup protective relay types and working ratio of the current transformers shall be specified on the one-line relaying and metering diagram.
- 11) Inputs to Telemetry Equipment
 - A) Generator will provide to TSP at TSP's REFUGE Substation the following signals originating at Generator's Plant (reference herein attached Exhibit "G"):
 - 1) Analog Data from Plant
 - (i) Kilovolts for each 34.5 kV bus (A phase).
 - (ii) Net megawatts for each generator feeder (three phase).
 - (iii)Net megavars for each generator feeder (three phase).
 - (iv)Net megavars for the reactive support equipment.
 - (v) Kilovolts for 345 kV transmission voltage (A phase).
 - (vi)Net megawatts and megavars for the 345 kV transmission line (three phase).
 - (vii) Frequency at the collector bus
 - (viii) Megawatts and megavars for each 345/34.5 kV transformer (three phase).
 - 2) Status Data from Plant
 - (i) Status of the 345 kV transmission voltage circuit breakers.
 - (ii) Status of all 34.5 kV circuit breakers for feeders and reactive support equipment.B) TSP will provide to Generator at Generator's PEYTON Substation the following signals originating at TSP's REFUGE Substation:
 - 1) Analog Data from TSP Substation Devices
 - (i) Kilovolts for the Point of Interconnection (three phase).
 - (ii) Megawatts, megavars, and megawatt-hour data from TSP EPS meter.
 - 2) Status Data from TSP Substation Devices
 - (i) For instance, status of transmission voltage circuit breakers.

- (ii) Alarm for failure of Pilot Wire/fiber optic relaying communication channels, if applicable.
- 12) Supplemental Terms and Conditions
 - A) The following drawings are attached and made a part of this agreement as Exhibit "H" Attached Drawings. (Note: The drawings contain a line of demarcation between TSP provided facilities and Generator provided facilities).
 - 1) Basic Offer CenterPoint Energy 345 kV Development Plan For Peyton Creek Wind Project dated 02/26/2018.
 - 2) Basic Offer CenterPoint Energy 345 kV One Line Relaying and Metering Diagram for Peyton Creek Wind Generation Facility Project dated 02/26/2018.
 - B) Cost Responsibility:
 - 1) Notwithstanding the provisions of Exhibit "A", Section 8.1, the amount of the contribution in aid of construction, if any, which Generator may be required to make, shall be specified in Exhibit "E", Security Arrangement Details.
 - 2) The Generator does not desire any enhancements to TSP's basic offer interconnection facilities and therefore no contribution in aid of construction ("CIAC") of the Transmission Interconnection Facilities is required.
 - 3) The TIF described herein is designed based on the generating capacity provided by the Generator. It is assumed that the generating facility will be capable of generating the Planned Capacity by the Scheduled Commercial Operation Date specified in Exhibit "B". Within the first 12 months following Commercial Operation, if the highest level of Actual Capacity is less than the Planned Capacity, the Generator shall be responsible for TIF costs, if any, that are determined, solely by the TSP, to have been incurred to accommodate Generator's Planned Capacity, but are then determined to not be necessary to accommodate Generator's Actual Capacity. As used here, "Actual Capacity" shall mean the Plant's total Net Dependable Capability, as determined or accepted by ERCOT, in accordance with ERCOT Requirements. Generator shall pay such costs determined herein within thirty (30) days following the receipt of TSP's invoice.
 - C) Clarifications to Exhibit "A"
 - The Parties agree that at the time of executing this Agreement the references to the PUCT Rules contained within certain definitions set forth in Exhibit "A", "Article 1. Definitions" have the meanings ascribed to such terms as established in the current PUCT Rules. The Parties recognize that the PUCT Rules are amended from time to time by the PUCT. The parties also acknowledge that ERCOT issues ERCOT Requirements in which terms are redefined from time to time. When the PUCT Rules or ERCOT Requirements are amended and terms defined in Exhibit "A", "Article 1. Definitions" are affected by such amendments, the Parties agree that such terms shall have the meanings as amended by the PUCT or ERCOT. The term "System Security Study" shall have the same definition as "Security Screening Study" in the ERCOT Requirements.
 - D) Rights and Instruments to be Acquired by Generator
 - 1) Generator agrees to secure, at no expense or cost to TSP, a Utility Easement as required by applicable power distribution utility, in a form acceptable to such utility, to extend station service power to REFUGE Substation as required by TSP;

- 2) Generator agrees to secure and provide to the TSP the following property rights:
 - (i) The REFUGE Substation area and the related detention pond as more particularly depicted in Exhibit "H" in fee simple; and,
 - (ii) Approximately one thousand three hundred foot (1,300') long outfall drainage easement for REFUGE Substation, said easement being a minimum fifty feet (50') in width.;
- 3) Generator agrees to secure and provide to the TSP the following instruments:
 - (i) Warranty Deed for the REFUGE Substation area and the related detention pond as more particularly depicted in Exhibit "H" in a form acceptable to the TSP;
 - (ii) Easement for the outfall drainage as referenced above, in a form acceptable to TSP;
 - (iii)Aerial and Ground Easement for the 345 kV transmission line extension from the existing 345 kV transmission right-of-way to REFUGE Substation in a form acceptable to TSP; and,
 - (iv)Any and all permits or studies required by Matagorda County, Texas; the State of Texas; or other entities, including, but not limited to, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, et al. Copies of any study and survey results and any permits secured for the project area encompassing the TIF shall be provided to TSP as soon as they become available to Generator but no later than start of construction;
- E) Rights and Instruments to be Acquired by TSP
 - TSP shall acquire any and all other regulatory or county permits as necessary for construction purposes, including, but not limited to, those required for construction of the REFUGE Substation and the 345 kV transmission line extension from the existing 345 kV transmission right-of-way to REFUGE Substation.
- F) Miscellaneous
 - Each Party shall be solely responsible for keeping itself informed of, and understanding its respective responsibilities under, all applicable North American Electric Reliability Corporation ("NERC") Standards and ERCOT Requirements and all valid, applicable laws, rules, regulations and orders of, and tariffs approved by, duly constituted Governmental Authorities.
 - 2) CenterPoint Energy has documented data specifications that define the operational data CenterPoint Energy requires to perform real-time monitoring. These specifications are incorporated in Section 11 above, Exhibit 'F' Outage and Clearance Coordination Procedure, and Exhibit 'G' Telemetry Specification.
 - 3) Generator shall provide to TSP a proposed route for the TIF no later than 30 days after Generator provides both a written notice to proceed with design, procurement, and construction of the TIF and the financial security called for in Exhibit "E". Such route shall include the TIF located between TSP's existing 345 kV electric transmission corridor and the Point of Interconnection.
 - 3) Each Party's personnel, contractors, subcontractors, and agents shall abide by and comply with the other Party's safety requirements and procedures while in areas designated as under that other Party's control.
 - 4) In the event that Generator's personnel, contractors, subcontractors, or agents cause delays in the work schedule of TSP, Generator shall reimburse to TSP the additional costs associated with such delays within 30 days of receipt of an invoice for such costs.

- 5) Generator understands and agrees that identification of any, including but not limited to stability, oscillation, harmonic, short circuit, over frequency, under frequency, over voltage, under voltage, phase imbalance, or geomagnetic disturbance conditions that may affect Generator's Plant and implementation of any associated protective measures, are the sole responsibility of Generator.
- 6) ERCOT Requirements.
 - (i) Unless expressly stated herein, where the ERCOT Requirements are in conflict with TSP's specifications or procedures, the ERCOT Requirements shall prevail.
 - (ii) The Generation unit(s) shall meet all voltage and reactive requirements as outlined in the ERCOT Protocols and ERCOT Operating Guides.
 - (iii)Prior to initial synchronization (as defined by ERCOT), ERCOT may verify that the Generator is meeting ERCOT requirements, such as inclusion in a quarterly stability assessment as currently described in Section 5 of the ERCOT Planning Guides. Failure to meet these ERCOT Requirements may result in delays to initial synchronization.
 - (iv)Prior to Commercial Operation, ERCOT may verify that the Generator is meeting ERCOT Requirements, including complying with reactive standards and the provision of accurate stability models. Additionally, the Generator is subject to voltage ride-through requirements as currently described in Section 2 of the ERCOT Nodal Operating Guides. Failure to meet these ERCOT Requirements may result in delays to commercial operation.
- 7) All generator data, including data for stability studies (transient, voltage, etc.) and subsynchronous resonance (SSR) data, as required by the ERCOT Requirements, shall be provided to ERCOT and the TSP before commercial operation. This data shall be updated when the Plant goes into commercial operation. Any updates to this information will be provided within 60 days to ERCOT and the TSP as changes or upgrades are made during the life of the Plant. This requirement applies to all future owners of the Plant. The Generator and any future owners of the Plant shall comply with these data requirements along with all applicable NERC requirements. Such requirements are subject to change from time to time, and such changes shall automatically become applicable based upon the effective date of the approved change.

13) Special Operating Conditions, if any, attached: None.

14) Cost Estimate Differences, if applicable:

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