



## Filing Receipt

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**ERCOT STANDARD GENERATION  
INTERCONNECTION AGREEMENT**

Between

**Rodeo Ranch Energy Storage, LLC**

and

**Texas-New Mexico Power Company**

for

**Rodeo Ranch Energy Storage  
January 31, 2022**

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## ERCOT STANDARD GENERATION INTERCONNECTION AGREEMENT

This Standard Generation Interconnection Agreement (this “Agreement”) is made and entered into this 31 day of January, 2022, between **Texas-New Mexico Power Company**, a Texas corporation (“Transmission Service Provider”), and **Rodeo Ranch Energy Storage, LLC** (“Generator”), hereinafter individually referred to as “Party,” and collectively referred to as “Parties.” References to a Party shall also be construed as a reference to such Party’s successors and permitted assigns. In consideration of the mutual covenants and agreements herein contained, the Parties hereto agree as follows:

Transmission Service Provider represents that it is a public utility that owns and operates facilities for the transmission and distribution of electricity. Generator represents that it will own and operate the Plant as identified in Exhibit “C”. Pursuant to the terms and conditions of this Agreement, Transmission Service Provider shall interconnect Generator’s Plant with Transmission Service Provider’s System consistent with the Full Interconnection Study Agreement executed between the Parties on October 4, 2021.

This Agreement applies only to the Plant and the Parties’ interconnection facilities as identified in Exhibit “C”.

This Agreement shall become effective on and as of the date first written above upon the due execution and delivery of this Agreement by both Parties, subject to Governmental Authority approval, if required, and shall continue in full force and effect until terminated in accordance with Exhibit “A”.

This Agreement will be subject to the following, all of which are incorporated herein:

- A. The “Terms and Conditions of the ERCOT Standard Generation Interconnection Agreement” attached hereto as Exhibit “A”;
- B. The ERCOT Requirements (unless expressly stated herein, where the ERCOT Requirements are in conflict with this Agreement, the ERCOT Requirements shall prevail);
- C. The PUCT Rules (where the PUCT Rules are in conflict with this Agreement, the PUCT Rules shall prevail);
- D. The Time Schedule attached hereto as Exhibit “B”;
- E. The Interconnection Details attached hereto as Exhibit “C”, “C1”;
- F. The notice requirements attached hereto as Exhibit “D”; and
- G. The Security Arrangement Details attached hereto as Exhibit “E”.
- H. TNMP’s Facility Interconnection Requirements attached hereto as Exhibit “F”.

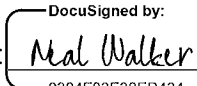
IN WITNESS WHEREOF, the Parties have executed this Agreement in duplicate originals, each of which shall constitute and be an original effective Agreement between the Parties.

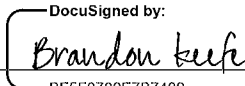
Texas-New Mexico Power Company

Rodeo Ranch Energy Storage, LLC

By: Neal Walker

By: Brandon Keefe

Signature:  DocuSigned by:  
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Signature:  DocuSigned by:  
BF5F0782E7B7402...

Title: President

Title: Managing Member

Date: 2/1/2022

Date: 2/1/2022

**Exhibit “A”**  
**Terms and Conditions of the ERCOT Standard Generation Interconnection Agreement**

**ARTICLE 1. DEFINITIONS**

Capitalized terms shall have the meanings as set forth below, except as otherwise specified in the Agreement:

1.1 “Affiliate” shall mean any person or entity that controls, is controlled by or is under common control with the Party in question. For purposes of this definition, control shall mean direct or indirect ownership or control of a majority of the voting interests of an entity.

1.2 “CCN” shall mean a Certificate of Convenience and Necessity issued by the PUCT.

1.3 “Commercial Operation” shall mean the date on which Generator declares that the construction of the Plant has been substantially completed, Trial Operation of the Plant has been completed, and the Plant is ready for dispatch.

1.3 “Control Area” shall have the meaning ascribed thereto in PUCT Rule 25.5(19) or its successor.

1.4 “ERCOT” shall mean the Electric Reliability Council of Texas, Inc. or its successor in function.

1.5 “ERCOT Requirements” means the ERCOT Operating Guides, ISO Generation Interconnection Procedures as well as any other documents adopted by the ISO or ERCOT relating to the interconnection and operation of generators and transmission systems in ERCOT, as amended from time to time, and any successors thereto. Any requirement in the foregoing documents imposed upon generation entities or generation facilities shall become the responsibility of the Generator, and any requirements imposed on transmission providers or transmission facilities shall become the responsibility of the TSP.

1.6 “Facilities Study” shall have the meaning as described in PUCT Rule 25.198(d) or its successor.

1.7 “Facilities Study Agreement” shall mean an agreement executed by the Parties relating to the performance of the Facilities Study.

1.8 “GIF” shall mean Generator’s interconnection facilities as described in Exhibit “C.”

1.9 “Good Utility Practice” shall have the meaning described in PUCT Rule 25.5(56) or its successor.

1.10 “Governmental Authority(ies)” shall mean any federal, state, local or municipal body having jurisdiction over a Party.

1.11 “In-Service Date” shall be the date, as reflected in Exhibit “B,” that the TIF will be ready to connect to the GIF.

1.12 “ISO” shall mean the ERCOT Independent System Operator. As of the effective date of this Agreement, the ISO is ERCOT.

1.13 “Plant” shall mean the electric generation facility owned and operated by the Generator, as specified in Exhibit “C.”

1.14 “Point of Interconnection” shall mean the location(s) where the GIF connects to the TIF as negotiated and defined by the Parties and as shown on Exhibit “C” of this Agreement.

1.15 “PUCT” shall mean the Public Utility Commission of Texas or its successor in function.

1.16 “PUCT Rules” shall mean the Substantive Rules of the PUCT.

1.17 “Reasonable Efforts” shall mean the use of Good Utility Practice and the exercise of due diligence (pursuant to PUCT Rule 25.191(d)(3) or its successor).

1.18 “System Protection Equipment” shall mean those facilities located within the TIF and the GIF as described in Section 5.6 and Exhibit “C.”

1.19 “System Security Study” shall have the meaning as described in PUCT Rule 25.198(c) or its successor.

1.20 “TCOS” shall mean the TSP’s transmission cost of service as allowed by the applicable Governmental Authority.

1.21 “TIF” shall mean the TSP’s interconnection facilities as described in Exhibit “C” to this Agreement.

1.22 “Trial Operation” shall mean the process by which the Generator is engaged in on-site test operations and commissioning of the Plant prior to Commercial Operation.

1.23 “TSP” shall mean the Transmission Service Provider.

1.24 “TSP System” shall mean the electric transmission facilities, including the TIF, and all associated equipment and facilities owned and/or operated by the TSP.

## **ARTICLE 2. TERMINATION**

2.1 Termination Procedures. This Agreement may be terminated as follows:

A. the Generator may terminate this Agreement after giving the TSP thirty (30) days advance written notice; or

B. the TSP may terminate this Agreement (subject to Governmental Authority approval, if required) on written notice to the Generator if the Generator’s Plant has not achieved Commercial Operation within one year after the scheduled Commercial Operation date reflected in Exhibit “B”;

C. either Party may terminate this Agreement in accordance with Section 10.6

2.2 Termination Costs. If a Party elects to terminate the Agreement pursuant to Section 2.1 above, the Generator shall pay all costs incurred (or committed to be incurred) by TSP, as of the date of the other Party’s receipt of such notice of termination, that are the responsibility of the Generator under this Agreement. In the event of termination by either Party, both Parties shall use



commercially reasonable efforts to mitigate the damages and charges that they may incur as a consequence of termination. The provisions of the Sections 2.2 and 2.3 shall survive termination of the Agreement.

2.3 Disconnection. Upon termination of this Agreement, the Parties will disconnect the GIF from the TIF.

### **ARTICLE 3. REGULATORY FILINGS**

3.1 Filing. The TSP shall file this executed Agreement with the appropriate Governmental Authority, if required. Any portions of this Agreement asserted by Generator to contain competitively sensitive commercial or financial information shall be filed by the TSP identified as “confidential” under seal stating, for the TSP’s showing of good cause, that Generator asserts such information is confidential information and has requested such filing under seal. If requested by the TSP, Generator shall provide the TSP, in writing, with the Generator’s basis for asserting that the information referred to in this Section 3.1 is competitively sensitive information, and the TSP may disclose such writing to the appropriate Governmental Authority.

3.2 Regulatory Approvals. Unless exempt, the TSP shall timely request ISO and all regulatory approvals necessary for it to carry out its responsibilities under this Agreement. Such approvals shall include the CCN, if any, required for the construction of the TIF.

### **ARTICLE 4. INTERCONNECTION FACILITIES ENGINEERING, PROCUREMENT, AND CONSTRUCTION**

4.1 Options. The Generator shall select one of the following options (subsection A or subsection B) and include the selected option in Exhibit “B” for completion of the TIF:

A. The TSP shall design, procure, and construct the TIF, using Reasonable Efforts to complete the TIF by the In-Service Date reflected in Exhibit “B.” The TSP will utilize its own resources and

will contract for additional resources, as reasonably necessary, to meet the In-Service Date. Such resources shall include, as the TSP believes is reasonable, use of other contractors, other equipment suppliers, other material suppliers, additional contract personnel, additional payments to contractors for expedited work, and premiums paid to equipment and material suppliers for expedited delivery. The TSP shall not be required to undertake any initiative which is inconsistent with its standard safety practices, its material and equipment specifications, its design criteria and construction procedures, its labor agreements, applicable laws and regulations, and ERCOT Requirements. In the event the TSP reasonably expects that it will not be able to complete the TIF by the In-Service Date, the TSP will promptly provide written notice to the Generator and will undertake Reasonable Efforts to meet the earliest date thereafter.

B. (i) The TSP shall design, procure, and construct the TIF by the In-Service Date reflected in Exhibit "B." The Parties acknowledge that the In-Service Date was either agreed upon through good faith negotiations or designated by the Generator upon failure of the Parties to agree. In the process of negotiating the In-Service Date, Generator will request a date upon which it reasonably expects it will be ready to begin use of the TIF and upon which it reasonably expects to begin doing so. Any date designated by the Generator shall in no event be less than fifteen months from the date that all conditions of Sections 4.2 and 4.3 have been satisfied. The designated In-Service Date will be extended day for day for each day that the ISO refuses to grant clearances to install equipment. If the TSP fails to complete the TIF by the In-Service Date reflected in Exhibit "B," the TSP shall pay the Generator liquidated damages in accordance with this Section 4.1.B.

(ii) The Parties agree that actual damages to the Generator, in the event the TIF are not completed by the In-Service Date, may include Generator's fixed operation and maintenance costs and lost opportunity costs. Such actual damages are uncertain and impossible to determine at this

time. The Parties agree that, because of such uncertainty, any liquidated damages paid by the TSP to the Generator shall be an amount equal to  $\frac{1}{2}$  of 1% of the actual cost of the TIF, per day. However, in no event shall the total liquidated damages exceed 20% of the actual cost of the TIF. The Parties agree that such liquidated damages are less than the Generator's actual damages. The Parties agree that the foregoing payments will be made by the TSP to the Generator as just compensation for the damages caused to the Generator, which actual damages are uncertain and impossible to determine at this time, and as reasonable liquidated damages, but not as a penalty or a method to secure performance of this Agreement.

(iii) The TSP shall apply to have the full costs of the TIF included in TCOS. If the PUCT issues a final, appealable order excluding from TCOS any portion of the TIF costs, including higher contractor and vendor costs due to liquidated damage provisions in those contracts and insurance costs to cover liquidated damages, which costs may have been reasonably incurred but which the PUCT finds should not be recovered through TCOS, the Generator shall reimburse the TSP for such costs in an amount not to exceed the difference between the TSP's estimate of the cost of the TIF under section 4.1.A and the TSP's estimate of the cost of the TIF under Section 4.1.B as reflected in Exhibit "C." Such costs shall be estimated using Good Utility Practice.

(iv) No liquidated damages shall be paid to Generator if the Generator is not ready to commence use of the TIF for the delivery of power to the Plant for Trial Operation or export of power from the Plant on the In-Service Date, unless the Generator would have been able to commence use of the TIF for the delivery of power to the Plant for Trial Operation or export of power from the Plant but for TSP's delay.

(v) If the In-Service Date has been designated by the Generator upon a failure of the Parties to agree on the In-Service Date, the TSP may, at its option, require the Generator to subcontract with the TSP for all or part of the design, procurement and construction of the TIF in accordance with the TSP's standard subcontractor agreements. In such event, the TSP shall be subject to the payment of liquidated damages to the Generator only if the In-Service Date is not met solely due to the TSP's failure to complete the portion of the TIF for which the TSP has retained responsibility. It is the intent of this subsection to give the TSP full control of the contents and quality of the TIF. To the extent the Generator acts as a subcontractor to the TSP, the following will apply: 1) The Generator shall engineer, procure equipment, and construct the TIF (or portions thereof) using Good Utility Practice and using standards and specifications provided in advance by the TSP; 2) In its engineering, procurement and construction of the TIF, the Generator shall comply with all requirements of law to which the TSP would be subject in the engineering, procurement or construction of the TIF; 3) The TSP shall review and approve the engineering design, acceptance tests of equipment, and the construction of the TIF; 4) The TSP shall have the right to approve and accept for operation the TIF in accordance with the standards and specifications provided in advance by the TSP, such approval and acceptance shall not be unreasonably withheld, conditioned, or delayed; 5) Should any phase of the engineering, equipment procurement, or construction of the TIF, including selection of subcontractors, not meet the standards and specifications provided by the TSP, and therefore be deemed unacceptable, then the Generator shall be obligated to remedy that portion of the TIF or selection of subcontractors that is deemed unacceptable, the TSP's approval of the Generator's selection of subcontractors will not be unreasonably withheld, conditioned or delayed; and 6) Once the TIF is accepted for operation by the TSP, then the TSP shall reimburse the Generator for the reasonable and necessary

costs incurred by the Generator to complete the TIF, not to exceed the amount specified in the subcontract. Such reimbursement shall be made within thirty days after receipt of the invoice, unless otherwise agreed to by the Parties.

4.2 Equipment Procurement. If responsibility for construction of the TIF is borne by the TSP, then the TSP shall commence design of the TIF and procure necessary equipment within a reasonable time after all of the following conditions are satisfied:

- A. The TSP has completed the Facilities Study pursuant to the Facilities Study Agreement;
- B. The TSP has received written authorization to proceed with design and procurement from the Generator by the date specified in Exhibit "B"; and
- C. The Generator has provided security to the TSP in accordance with Section 8.3 by the dates specified in Exhibit "B."

4.3 Construction Commencement. The TSP shall commence construction of the TIF as soon as practicable after the following additional conditions are satisfied:

- A. Approval of the appropriate Governmental Authority has been obtained for any facilities requiring regulatory approval, and the CCN for the TIF has been obtained;
- B. Necessary real property rights, if any, have been obtained;
- C. The TSP has received written authorization to proceed with construction from the Generator by the date specified in Exhibit "B"; and
- D. The Generator has provided security to the TSP in accordance with Section 8.3 by the dates specified in Exhibit "B."

4.4 Work Progress. The Parties will keep each other advised periodically as to the progress of their respective design, procurement and construction efforts. If, at any time, the Generator becomes aware that the completion of the TIF will not be required until after the specified In-

Service Date, the Generator will promptly provide written notice to the TSP of a new, later In-Service Date.

4.5 Conditions Precedent Delay. To the extent this Agreement incorporates a specified In-Service Date and the Generator fails to satisfy conditions precedent under Sections 4.2 and 4.3 so that the TSP may meet the In-Service Date, the Parties will negotiate in good faith to establish a new schedule for completion of the TIF.

## **ARTICLE 5. FACILITIES AND EQUIPMENT**

5.1 Information Exchange. The Parties shall exchange information and mutually agree upon the design and compatibility of the Parties' interconnection facilities. The Parties shall work diligently and in good faith to make any necessary design changes to ensure compatibility of the GIF to the TSP System.

5.2 GIF Construction. Generator agrees to cause the GIF to be designed and constructed in accordance with Good Utility Practice, ERCOT Requirements and the National Electrical Safety Code in effect at the time of construction. Within one-hundred and twenty (120) days after Commercial Operation, unless the Parties agree on another mutually acceptable deadline, the Generator shall deliver to the TSP the following "as-built" drawings, information and documents for the GIF: a one-line diagram, a site plan showing the Plant and the GIF, plan and elevation drawings showing the layout of the GIF, a relay functional diagram, relaying AC and DC schematic wiring diagrams and relay settings for all facilities associated with the Generator's main-power transformers, the facilities connecting the Generator to the main power transformers and the GIF, and the impedances (determined by factory tests) for the associated main power transformers and the generators.

5.3 TIF Construction. The TSP agrees to cause the TIF to be designed and constructed in accordance with Good Utility Practice, ERCOT Requirements and the National Electrical Safety Code in effect at the time of construction.

5.4 Equipment Changes. For facilities not described in Exhibit "C," if either Party makes equipment changes to the Plant, the GIF, the TIF or the TSP System which it knows will affect the operation or performance of the other Party's interconnection facilities, the Parties agree to notify the other Party, in writing, of such changes. Such changes shall be made in accordance with ERCOT Requirements and coordinated between the Parties.

5.5 Metering, Telemetry and Communications Requirements.

A. Metering and telemetry of data will be accomplished in accordance with ERCOT Requirements. The specific metering, telemetry and communications equipment to be installed and data to be telemetered are described in Exhibit "C."

B. At the Point of Interconnection, the metering and telemetry equipment shall be owned by the TSP. However, the TSP shall provide the Generator with metering and telemetry values in accordance with ERCOT Requirements.

C. A minimum set of inputs to the telemetry equipment are specified in Exhibit "C." Additional sets of inputs may be subsequently mutually agreed upon.

D. The TSP will notify the Generator at least five (5) business days in advance of any planned maintenance, inspection, testing, or calibration of the metering equipment, unless otherwise agreed to in writing. The Generator, or its designated representative, shall have the right to be present for these activities and to receive copies of any documents related to the procedures and results.

E. Prior to the connection of the GIF to the TIF, acceptance tests will be performed by the owning Party to ensure the proper functioning of all metering, telemetry and communications

equipment associated with the Point of Interconnection and both Parties' interconnection facilities, and to verify the accuracy of data being received by the TSP, the Control Area(s) in which the Plant and the TSP are located and the Generator. All acceptance tests will be performed consistent with ERCOT Requirements.

F. The TSP shall, in accordance with Good Utility Practice and ERCOT Requirements, specify communications facilities, including those necessary to transmit data from the metering equipment to the TSP, that are necessary for the effective operation of the Plant and the GIF with the TSP System. Such communication facilities shall be included in Exhibit "C." The Generator shall make arrangements to procure and bear the cost of such facilities.

G. Any changes to the meters, telemetry equipment, voltage transformers, current transformers, and associated panels, hardware, conduit and cable, which will affect the data being received by the other Party must be mutually agreed to by the Parties.

H. Each Party will promptly advise the other Party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other Party. The Party owning such equipment shall correct such error or malfunction as soon as reasonably feasible in accordance with ERCOT Requirements.

#### 5.6 System Protection and Other Controls Requirements.

A. Each Party's facilities shall be designed to isolate any fault, or to correct or isolate any abnormality, that would negatively affect the other Party's system or other entities connected to the TSP System.

B. The Generator shall be responsible for protection of its facilities consistent with ERCOT Requirements.



C. Each Party's protective relay design shall incorporate the necessary test switches to perform the tests required in Section 5.6.F. 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 the Generator's units.

D. Recording equipment shall be installed to analyze all system disturbances in accordance with ERCOT Requirements.

E. Each Party will test, operate and maintain System Protection Equipment in accordance with ERCOT Requirements. Each Party will provide reasonable notice to the other Party of any testing of its System Protection Equipment allowing such other Party the opportunity to have representatives present during testing of its System Protection Equipment.

F. Prior to the In-Service Date, and again prior to Commercial Operation, each Party or its agent shall perform a complete calibration test and functional trip test of the System Protection Equipment. At intervals suggested by Good Utility Practice or at intervals described in the ERCOT Requirements if so defined therein, and following any apparent malfunction of the System Protection Equipment, each Party shall perform both calibration and functional trip tests of its System Protection Equipment. These tests do not require the tripping of any in-service generation unit. These tests do, however, require that all protective relays and lockout contacts be activated.

5.7 No Annexation. Any and all equipment placed on the premises of a Party shall be and remain the property of the Party providing such equipment regardless of the mode and manner of annexation or attachment to real property, unless otherwise mutually agreed by the Parties.

## **ARTICLE 6. OPERATION AND MAINTENANCE**

6.1 Operation and Maintenance of Interconnection Facilities. The Parties agree to operate and maintain their systems in accordance with Good Utility Practice,

National Electrical Safety Code, the ERCOT Requirements, PUCT Rules and all applicable laws and regulations. Subject to any necessary ISO approval, each Party shall provide necessary equipment outages to allow the other Party to perform periodic maintenance, repair or replacement of its facilities. Such outages shall be scheduled at mutually agreeable times, unless conditions exist which a Party believes, in accordance with Good Utility Practice, may endanger persons or property. No changes will be made in the normal operation of the Point of Interconnection without the mutual agreement of the Parties except as otherwise provided herein. All testing of the Plant that affects the operation of the Point of Interconnection shall be coordinated between the TSP, the Control Area(s) in which the Plant and the TSP are located, and the Generator and will be conducted in accordance with ERCOT Requirements.

6.2 Control Area. The Control Area within ERCOT is a single Control Area.

6.3 Land Rights and Easements. Terms and conditions addressing the rights of the TSP and the Generator regarding any facilities located on the other Party's property shall be addressed in a separate, duly executed and recorded easement agreement between the Parties. Prior to Commercial Operation, the Parties will mutually agree upon procedures to govern access to each other's property as necessary for the Parties to fulfill their obligations hereunder.

6.4 Service Interruption. The Parties recognize that the interruption of service provisions of the PUCT Rules give TSP the right to disconnect the TSP System from the Plant under the conditions specified therein. The Generator will promptly disconnect the Plant from the TSP System when required by and in accordance with the PUCT Rules and ERCOT Requirements.

6.5 Switching and Clearance.

A. Any switching or clearances needed on the TIF or the GIF will be done in accordance with ERCOT Requirements.

B. Any switching and clearance procedure necessary to comply with Good Utility Practice or ERCOT Requirements that may have specific application to the Plant shall be addressed in Exhibit "C."

6.6 Start-Up and Synchronization. Consistent with ERCOT Requirements and the Parties' mutually acceptable procedure, the Generator is responsible for the proper synchronization of the Plant to the TSP System.

6.7 Routine Operational Communications. On a timely basis, the Parties shall exchange all information necessary to comply with ERCOT Requirements.

6.8 Blackstart Operations. If the Plant is capable of blackstart operations, Generator will coordinate individual Plant start-up procedures consistent with ERCOT Requirements. Any blackstart operations shall be conducted in accordance with the blackstart criteria included in the ERCOT Requirements and the TSP Blackstart Plan on file with the ISO. Notwithstanding this section, the Generator is not required to have blackstart capability by virtue of this Agreement. If the Generator will have blackstart capability, then Generator shall provide and maintain an emergency communication system that will interface with the TSP during a blackstart condition.

6.9 Power System Stabilizers. The Generator shall procure, install, maintain and operate power system stabilizers if required to meet ERCOT Requirements and as described in Exhibit "C."

## **ARTICLE 7. DATA REQUIREMENTS**

7.1 Data Acquisition. The acquisition of data to realistically simulate the electrical behavior of system components is a fundamental requirement for the development of a reliable interconnected transmission system. Therefore, the TSP and the Generator shall be required to

submit specific information regarding the electrical characteristics of their respective facilities to each other as described below in accordance with ERCOT Requirements.

7.2 Initial Data Submission by TSP. The initial data submission by the TSP shall occur no later than 120 days prior to Trial Operation and shall include transmission system data necessary to allow the Generator to select equipment and meet any system protection and stability requirements.

7.3 Initial Data Submission by Generator. The initial data submission by the Generator, including manufacturer data, shall occur no later than 90 days prior to the Trial Operation and shall include a completed copy of the following forms contained in the ISO's Generation Interconnection Procedure: (1) Plant Description/Data and (2) Generation Stability Data. It shall also include any additional data provided to the ISO for the System Security Study. Data in the initial submissions shall be the most current Plant design or expected performance data. Data submitted for stability models shall be compatible with the ISO standard models. If there is no compatible model, the Generator will work with an ISO designated consultant to develop and supply a standard model and associated data.

7.4 Data Supplementation. Prior to Commercial Operation, the Parties shall supplement their initial data submissions with any and all "as-built" Plant data or "as-tested" performance data which differs from the initial submissions or, alternatively, written confirmation that no such differences exist. Subsequent to Commercial Operation, the Generator shall provide the TSP any data changes due to equipment replacement, repair, or adjustment. The TSP shall provide the Generator any data changes due to equipment replacement, repair, or adjustment in the directly connected substation or any adjacent TSP-owned substation that may affect the GIF equipment ratings, protection or operating requirements. The Parties shall provide such data no later than 30

days after the date of the actual change in equipment characteristics. Also, the Parties shall provide to each other a copy of any additional data later required by the ISO concerning these facilities.

7.5 Data Exchange. Each Party shall furnish to the other Party real-time and forecasted data as required by ERCOT Requirements. The Parties will cooperate with one another in the analysis of disturbances to either the Plant or the TSP's System by gathering and providing access to any information relating to any disturbance, including information from oscillography, protective relay targets, breaker operations and sequence of events records.

## **ARTICLE 8. PERFORMANCE OBLIGATION**

8.1 Generator's Cost Responsibility. The Generator will acquire, construct, operate, test, maintain and own the Plant and the GIF at its sole expense. In addition, the Generator may be required to make a contribution in aid of construction in the amount set out in and for the facilities described in Exhibit "C," if any, in accordance with PUCT Rules.

8.2 TSP's Cost Responsibility. The TSP will acquire, own, operate, test, and maintain the TIF at its sole expense, subject to the provisions of Section 4.1.B and the contribution in aid of construction provisions of Section 8.1 of this Agreement.

8.3 Financial Security Arrangements. The TSP may require the Generator to pay a reasonable deposit or provide another means of security, to cover the costs of planning, licensing, procuring equipment and materials, and constructing the TIF. The required security arrangements shall be specified in Exhibit "E." Within five business days after the Plant achieves Commercial Operation, the TSP shall return the deposit or security to the Generator. However, the TSP may retain an amount to cover the incremental difference between the TSP's actual out of pocket costs associated with the choice of Section 4.1.B over Section 4.1.A, pending a final PUCT Order as contemplated in Section 4.1.B(iii). If the Plant has not achieved Commercial Operation within

one year after the scheduled Commercial Operation date identified in Exhibit “B” or if this Agreement is terminated in accordance with Section 2.1 and the TIF are not required, the TSP may, subject to the provisions of Section 2.2, retain as much of the deposit or security as is required to cover the costs it incurred in planning, licensing, procuring equipment and materials, and constructing the TIF. If a cash deposit is made pursuant to Exhibit “E,” any repayment of such cash deposit shall include interest at a rate applicable to customer deposits as established from time to time by the PUCT or other Governmental Authority.

## **ARTICLE 9. INSURANCE**

9.1 Except as permitted by Paragraph 9.1.J, each Party shall, at its own expense, maintain in force throughout the period of this Agreement and until released by the other Party the following minimum insurance coverages, with insurers authorized to do business in Texas:

A. Employers Liability and Worker’s Compensation Insurance providing statutory benefits in accordance with the laws and regulations of the State of Texas. The minimum limits for the Employer’s Liability insurance shall be One Million Dollars (\$1,000,000) each accident bodily injury by accident, One Million Dollars (\$1,000,000) each employee bodily injury by disease, and One Million Dollars (\$1,000,000) policy limit bodily injury by disease.

B. Commercial General Liability Insurance including premises and operations, personal injury, broad form property damage, broad form blanket contractual liability coverage (including coverage for the contractual indemnification) products and completed operations coverage, coverage for explosion, collapse and underground hazards, independent contractors coverage, coverage for pollution to the extent normally available and punitive damages to the extent normally available and a cross liability endorsement, with minimum limits of One Million

Dollars (\$1,000,000) per occurrence/One Million Dollars (\$1,000,000) aggregate combined single limit for personal injury, bodily injury, including death and property damage.

C. Comprehensive Automobile Liability Insurance for coverage of owned, non-owned and hired vehicles, trailers or semi-trailers designed for travel on public roads, with a minimum combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury, including death, and property damage.

D. Excess Public Liability Insurance over and above the Employer's Liability, Commercial General Liability and Comprehensive Automobile Liability Insurance coverage, with a minimum combined single limit of Twenty Million Dollars (\$20,000,000) per occurrence/Twenty Million Dollars (\$20,000,000) aggregate.

E. The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance, and Excess Public Liability Insurance policies shall name the other Party, its Affiliates, and their respective directors, officers, agents, servants and employees ("Other Party Group") as additional insured.

F. The Commercial General Liability Insurance, Automobile Liability Insurance and Excess Public Liability Insurance policies shall contain provisions that specify that the policies are primary and shall apply to such extent without consideration for other policies separately carried and shall state that each insured is provided coverage as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount for which the insurer would have been liable had only one insured been covered. Each Party shall be responsible for its respective deductibles or retentions.

G. The Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance and Excess Public Liability Insurance policies, if written on a Claims First

Made basis, shall be maintained in full force and effect for two (2) years after termination of this Agreement, which coverage may be in the form of tail coverage or extended reporting period coverage if agreed by the Parties.

H. The requirements contained herein as to the types and limits of all insurance to be maintained by the Parties are not intended to and shall not in any manner, limit or qualify the liabilities and obligations assumed by the Parties under this Agreement.

I. Upon request, each Party shall provide an “evidence only” certificate of all insurance required in this Agreement.

J. Notwithstanding the foregoing, each Party may self-insure to the extent it maintains a self-insurance program; provided that, such Party’s senior long-term debt is rated at investment grade, or better, by Standard & Poor’s, Moody’s, or an equivalent rating agency. For any period of time that a Party’s senior long-term debt is unrated or is rated at less than investment grade, such Party shall comply with the insurance requirements applicable to it under Sections 9.1.A through 9.1.I. In the event that a Party is permitted to self-insure pursuant to this Section 9.1.J, it shall not be required to comply with the insurance requirements applicable to it under Sections 9.1.A through 9.1.I.

K. The Parties agree to report to each other in writing as soon as practical all accidents or occurrences resulting in injuries to any person, including death, and any property damage arising out of this Agreement.

## **ARTICLE 10. MISCELLANEOUS**

### **10.1 Governing Law and Applicable Tariffs.**

A. This Agreement for all purposes shall be construed in accordance with and governed by the laws of the State of Texas, excluding conflicts of law principles that would refer to the laws of



another jurisdiction. The Parties submit to the jurisdiction of the federal and state courts in the State of Texas.

B. This Agreement is subject to all valid, applicable rules, regulations and orders of, and tariffs approved by, duly constituted Governmental Authorities.

C. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, rules, or regulations of a Governmental Authority.

10.2 No Other Services. This Agreement is applicable only to the interconnection of the Plant to the TSP System at the Point of Interconnection and does not obligate either Party to provide, or entitle either Party to receive, any service not expressly provided for herein. Each Party is responsible for making the arrangements necessary for it to receive any other service that it may desire from the other Party or any third party. This Agreement does not address the sale or purchase of any electric energy, transmission service or ancillary services by either Party, either before or after Commercial Operation.

10.3 Entire Agreement. This Agreement, including all Exhibits, Attachments and Schedules attached hereto, constitutes the entire agreement between the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement. Notwithstanding the other provisions of this Section, the Facilities Study Agreement, if any, is unaffected by this Agreement.

10.4 Notices. Except as otherwise provided in Exhibit "D," any formal notice, demand or request provided for in this Agreement shall be in writing and shall be deemed properly served,

given or made if delivered in person, or sent by either registered or certified mail, postage prepaid, overnight mail or fax to the address or number identified on Exhibit “D” attached to this Agreement. Either Party may change the notice information on Exhibit “D” by giving five business days written notice prior to the effective date of the change.

#### 10.5 Force Majeure.

A. The term “Force Majeure” as used herein shall mean any cause beyond the reasonable control of the Party claiming Force Majeure, and without the fault or negligence of such Party, which materially prevents or impairs the performance of such Party’s obligations hereunder, including but not limited to, storm, flood, lightning, earthquake, fire, explosion, failure or imminent threat of failure of facilities, civil disturbance, strike or other labor disturbance, sabotage, war, national emergency, or restraint by any Governmental Authority.

B. Neither Party shall be considered to be in Default (as hereinafter defined) with respect to any obligation hereunder (including obligations under Article 4), other than the obligation to pay money when due, if prevented from fulfilling such obligation by Force Majeure. A Party unable to fulfill any obligation hereunder (other than an obligation to pay money when due) by reason of Force Majeure shall give notice and the full particulars of such Force Majeure to the other Party in writing or by telephone as soon as reasonably possible after the occurrence of the cause relied upon. Telephone notices given pursuant to this Section shall be confirmed in writing as soon as reasonably possible and shall specifically state full particulars of the Force Majeure, the time and date when the Force Majeure occurred and when the Force Majeure is reasonably expected to cease. The Party affected shall exercise due diligence to remove such disability with reasonable dispatch, but shall not be required to accede or agree to any provision not satisfactory to it in order to settle and terminate a strike or other labor disturbance.

## 10.6 Default

A. The term “Default” shall mean the failure of either Party to perform any obligation in the time or manner provided in this Agreement. No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of Force Majeure as defined in this Agreement or the result of an act or omission of the other Party. Upon a Default, the non-defaulting Party shall give written notice of such Default to the defaulting Party. Except as provided in Section 10.6.B, the defaulting Party shall have thirty (30) days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 30 days, the defaulting Party shall commence such cure within 30 days after notice and continuously and diligently complete such cure within 90 days from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.

B. If a Default is not cured as provided in this Section, or if a Default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this Section will survive termination of this Agreement.

10.7 Intrastate Operation. The operation of the Plant by Generator shall not cause there to be a synchronous or an asynchronous interconnection between ERCOT and any other transmission facilities operated outside of ERCOT unless ordered by the Federal Energy Regulatory Commission under Section 210 of the Federal Power Act. The Parties recognize and agree that any such interconnection will constitute an adverse condition giving the TSP the right to

immediately disconnect the TIF from the GIF, until such interconnection has been disconnected. The Generator will not be prohibited by this Section from interconnecting the Plant with facilities operated by the Comision Federal de Electricidad of Mexico, unless such interconnection would cause ERCOT utilities that are not “public utilities” under the Federal Power Act to become subject to the plenary jurisdiction of the Federal Energy Regulatory Commission.

10.8 No Third Party Beneficiaries. This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

10.9 No Waiver. The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of obligations, rights, or duties imposed upon the Parties. Termination or Default of this Agreement for any reason by the Generator shall not constitute a waiver of the Generator’s legal rights to obtain an interconnection from the TSP under a new interconnection agreement.

10.10 Headings. The descriptive headings of the various articles and sections of this Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Agreement.

10.11 Multiple Counterparts. This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

10.12 Amendment. This Agreement may be amended only upon mutual agreement of the Parties, which amendment will not be effective until reduced to writing and executed by the Parties.

10.13 No Partnership. This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any

partnership obligation or liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

10.14 Further Assurances. The Parties agree to (i) furnish upon request to each other such further information, (ii) execute and deliver to each other such other documents, and (iii) do such other acts and things, all as the other Party may reasonably request for the purpose of carrying out the intent of this Agreement and the documents referred to in this Agreement. Without limiting the generality of the foregoing, the TSP shall, at the Generator's expense, when reasonably requested to do so by the Generator at any time after the execution of this Agreement, prepare and provide such information in connection with this Agreement (including, if available, resolutions, certificates, opinions of counsel or other documents relating to the TSP's corporate authorization to enter into this Agreement and to undertake the obligations set out herein) as may be reasonably required by any potential lender to the Generator under a proposed loan agreement. The TSP will use commercially reasonable efforts to obtain any opinion of counsel reasonably requested by Generator, but the TSP shall not be in Default of any obligation under this Agreement if the TSP is unable to provide an opinion of counsel that will satisfy any potential lender to the Generator. Specifically, upon the written request of one Party, the other Party shall provide the requesting Party with a letter stating whether or not, up to the date of the letter, that Party is satisfied with the performance of the requesting Party under this Agreement.

10.15 Indemnification and Liability. To the extent permitted by law, the indemnification and liability provisions of the PUCT Rule 25.202(b)(2) or its successor shall govern this Agreement.

10.16 Consequential Damages. OTHER THAN THE LIQUIDATED DAMAGES HERETOFORE DESCRIBED, IN NO EVENT SHALL EITHER PARTY BE LIABLE UNDER

ANY PROVISION OF THIS AGREEMENT FOR ANY LOSSES, DAMAGES, COSTS OR EXPENSES FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFIT OR REVENUE, LOSS OF THE USE OF EQUIPMENT, COST OF CAPITAL, COST OF TEMPORARY EQUIPMENT OR SERVICES, WHETHER BASED IN WHOLE OR IN PART IN CONTRACT, IN TORT, INCLUDING NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER THEORY OF LIABILITY; PROVIDED, HOWEVER, THAT DAMAGES FOR WHICH A PARTY MAY BE LIABLE TO THE OTHER PARTY UNDER ANOTHER AGREEMENT WILL NOT BE CONSIDERED TO BE SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES HEREUNDER.

10.17 Assignment. This Agreement may be assigned by either Party only with the written consent of the other; provided that either Party may assign this Agreement without the consent of the other Party to any Affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement; and provided further that the Generator shall have the right to assign this Agreement, without the consent of the TSP, for collateral security purposes to aid in providing financing for the Plant, provided that the Generator will require any secured party, trustee or mortgagee to notify the TSP of any such assignment. Any financing arrangement entered into by the Generator pursuant to this Section will provide that prior to or upon the exercise of the secured party's, trustee's or mortgagee's assignment rights pursuant to said arrangement, the secured creditor, the trustee or mortgagee will notify the TSP of the date and particulars of any such exercise of assignment right(s). Any attempted assignment that violates this Section is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's

obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

10.18 Severability. If any provision in this Agreement is finally determined to be invalid, void or unenforceable by any court having jurisdiction, such determination shall not invalidate, void or make unenforceable any other provision, agreement or covenant of this Agreement; provided that if the Generator (or any third-party, but only if such third-party is not acting at the direction of the TSP) seeks and obtains such a final determination with respect to any provision of Section 4.1.B, then none of the provisions of Section 4.1.B. shall thereafter have any force or effect and the Parties' rights and obligations shall be governed solely by Section 4.1.A.

10.19 Comparability. The Parties will comply with all applicable comparability and code of conduct laws, rules and regulations, as amended from time to time.

10.20 Invoicing and Payment. Unless the Parties otherwise agree (in a manner permitted by applicable PUCT Rules and as specified in writing in an Exhibit "E" attached hereto), invoicing and payment rights and obligations under this Agreement shall be governed by PUCT Rules or applicable Governmental Authority. Invoices shall be rendered to the paying Party at the address specified on, and payments shall be made in accordance with the requirements of, Exhibit "D."

10.21 Confidentiality.

A. Subject to the exception in Section 10.21.B, any information that a Party claims is competitively sensitive, commercial or financial information under this Agreement ("Confidential Information") shall not be disclosed by the other Party to any person not employed or retained by the other Party, except to the extent disclosure is (i) required by law; (ii) reasonably deemed by the disclosing Party to be required to be disclosed in connection with a dispute between or among the Parties, or the defense of litigation or dispute; (iii) otherwise permitted by consent of the other

Party, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this Agreement or as a transmission service provider or a Control Area operator including disclosing the Confidential Information to the ISO. The Party asserting confidentiality shall notify the other Party in writing of the information it claims is confidential. Prior to any disclosures of the other Party's Confidential Information under this subsection, or if any third party or Governmental Authority makes any request or demand for any of the information described in this subsection, the disclosing Party agrees to promptly notify the other Party in writing and agrees to assert confidentiality and cooperate with the other Party in seeking to protect the Confidential Information from public disclosure by confidentiality agreement, protective order or other reasonable measures.

B. This provision shall not apply to any information that was or is hereafter in the public domain (except as a result of a breach of this provision).



**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 provide security, as specified in Section 4.2, so that TSP may maintain schedule to meet the In-Service Date: **February 1, 2022**

Date by which Generator must provide written notice to proceed with procurement and provide security, as specified in Section 4.2, so that TSP may maintain schedule to meet the In-Service Date: **February 1, 2022**

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: **September 1, 2022**

Generator must also remain in compliance with its obligations to provide and maintain Performance Assurance (as defined in Exhibit "E") as required pursuant to Exhibit "E".

Date by which Generator must provide in form and substance acceptable to TSP all necessary rights-of-way, easements and other and real property rights for the TIF as required to be provided by Generator pursuant to Paragraph 8, Exhibit "C" below (such rights-of-way, easements and other real property rights for the TIF, in form and substance acceptable to TSP, are collectively referred to herein as the "ROW"): **September 1, 2022**

In-Service Date(s): **February 1, 2023**

Scheduled Trial Operation Date: **March 1, 2023**

Scheduled Commercial Operation Date: **May 31, 2023**

The Parties may mutually agree to change the dates and times of this Exhibit B.

In the event that the Generator does not provide any notice to proceed, security, and/or the ROW by the date(s) required above, then each of the following shall occur: (i) the In-Service Date(s), the Scheduled Trial Operation Date and the Scheduled Commercial Operation Date may each be extended on a day-for-day basis or such longer period of time, as reasonably determined by the TSP, and if required as a result of the delay; and (ii) if the TSP reasonably determines that the costs of planning, licensing, procuring equipment and materials, and/or constructing the TIF has

increased or will increase as a result of the delay, then the TSP may request that the Generator provide additional Performance Assurance to the TSP in the amount of the estimated increase in costs as demonstrated by the TSP, and the Generator shall provide such additional requested Performance Assurance, as set forth in Exhibit "E" and (iii) if Generator fails to cure same after notice from TSP and failure to cure same within 20 days from such notice, a Default of the Generator under Section 10.6 shall be deemed to have occurred; provided, that Generator shall not be liable for damages in connection with any termination pursuant to Section 10.6; provided, further that the cure period for such failure specific above shall be the only cure period applicable to such failure, and no other cure period in Section 10.6 shall apply.

For the avoidance of doubt, the above does not set forth the only circumstances under which the In-Service Date(s), the Scheduled Trial Operation Date and the Scheduled Commercial Operation Date may be extended or additional Performance Assurance may be required.

## **Exhibit “C”**

### **Interconnection Details**

- 1) Name: Rodeo Ranch Energy Storage, LLC (Rodeo Ranch Energy Storage)
- 2) Point of Interconnection Location:  
TSP system side of Plant’s terminating dead-end structure inside Generator’s GIFSUB, located due North by approximately 150 feet of TNMP’s Worsham Substation in Reeves County, Texas.
- 3) Delivery Voltage: 138kV
- 4) Number and Size of Generating Units:  
The Plant is a Battery Energy Storage System (“BESS”) facility with one Point of Interconnection to the area 138kV transmission system. The maximum rating will be 300MWac at the Point of Interconnection. The Plant consists of 88 Sungrow SC4000UD bi-directional inverters rated at 4.0MVA each.
- 5) Type of Generating Units:  
Sungrow SC4000UD Bi-Directional Inverters.
- 6) Metering Equipment:

TSP shall, in accordance with ERCOT Requirements, PUCT Substantive Rules, and Good Utility Practice, install, own, operate, test, calibrate, and maintain ERCOT-pollled Settlement meter (“EPS”), 138 kV instrument transformers and associated wiring required for measuring the output of the Plant’s generation and auxiliary electrical load at TSP’s Worsham Substation. The 138 kV metering instrument transformers for the EPS metering shall be procured by TSP and owned, maintained, and replaced by TSP.

TSP shall also, in accordance with ERCOT Requirements, PUCT Substantive Rules, and Good Utility Practice, install, own, operate, test, calibrate, and maintain up to two (2) sets of Wholesale Storage Load EPS metering for measuring the output of the Plant’s generation and wholesale storage load, which shall each include an EPS meter, 34.5 kV instrument transformers and associated wiring. The 34.5 kV metering instrument transformers for the EPS metering shall be procured by TSP and owned, maintained, and replaced by TSP. Generator and TSP shall coordinate design, access requirements, and other matters as reasonably necessary to accommodate installation, operation, and maintenance of the Wholesale Storage Load EPS metering, which shall be located at the Plant.

- 7) Generator Interconnection Facilities:
  - A) Generator’s interconnection substation(s) including control building(s), 138-kV step-up transformer(s), transformer protection package(s), 138-kV circuit breaker(s), 138-kV line disconnect switch(es), and protective relaying panels for the Generator’s 138-kV line that will coordinate with the TSP’s line panels at the TSP Substation for the Generator line protection;

- B) Associated structures, bus-work, conductor, connectors, grounding, conduit, control cable, foundation work, perimeter fencing, grading/dirt work and any appurtenances necessary for construction and operation of the GIF
  - C) Suitable conduit paths from the TSP owned 34.5-kV metering current transformers associated with the WSL and 34.5-kV metering accuracy voltage transformers to the TSP owned WSL Meter cabinet with review and acceptance of design by TSP;
  - D) Suitable conduit paths from the Generator owned fiber optic splice enclosure on Generator owned GIF substation dead-end terminal structure to the TSP owned WSL Meter cabinet with review and acceptance of design by TSP;
  - E) Electrical characteristics of Plant's Generator Interconnection Facilities shall be in accordance with the most recent version of TSP's "Facility Interconnection Requirements" attached as Exhibit "F" and in particular, the section pertaining to "Generation".
  - F) Generator shall provide a disconnect switch located on Generator's terminating structure(s) for connection to TSP's System.
- 8) Transmission Service Provider Interconnection Facilities:
- A) TSP will provide a 138 kV transmission line from the Point of Interconnection to TSP's Worsham Substation and a single metered line terminal position within TSP's Worsham Switching Station, which facilities consist of steel structures, poles, conductors, breakers, switches, instrument transformers and associated protection, control and metering equipment and communication for the transmission line. TSP's Worsham Substation will be located at approximately 31°21'22.30"N, 103°20'3.56"W.
  - B) TSP shall complete its entire scope of work on the Worsham 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.
    - a. 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 Worsham Substation from being used for its intended purposes as described in this Agreement or in accordance with applicable laws;
      - ii. prevents the Worsham 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 Worsham Switching Station, or its ability to transmit the Plant's power to the

## ERCOT grid.

- C) TSP shall furnish, own, and maintain the connection from Worsham Substation to Plant's terminating structure(s) at the Point of Interconnection, including phase conductors, static conductors, structures, 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 Plant's disconnecting device.
- D) TSP shall furnish, own, and maintain the connection from Worsham Substation to TSP's transmission system.
- E) 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 System. TSP MAKES NO PROMISE, REPRESENTATION, OR WARRANTY AS TO WHETHER THE TSP 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.
- F) Generator shall convey and grant to TSP, at no cost to TSP, an easement and right-of-way, in form and substance acceptable to TSP, as TSP determines is required for the installation, construction, operation, maintenance, replacement and removal of the TIF.

## 9) Communications Facilities:

Generator shall be responsible for providing communication circuits, including, but not limited to, any managed network and hardware maintenance expenses for communication facilities used by Generator at the GIF. For all circuits used by the TSP and that terminate at the TIF, the TSP shall be responsible for ordering, owning, managing, reporting trouble and coordinating corrective action with TSP privately-owned or leased communication services provider. TSP may use other ERCOT-approved modern digital cellular or wireline communication technology services in place of an analog business telephone line for remote EPS meter access and/or voice communications.

## 10) System Protection Equipment:

- A) Generator shall provide relays, circuit breakers, and other devices necessary to promptly remove fault contributions of the generation equipment to any short circuits on the TSP System as required by ERCOT Requirements and Good Utility Practice. Such protective equipment shall consist of, at a minimum, a switch or disconnecting device with the appropriate interrupting capability to be located at the Plant switchyard. In addition to faults inside the Plant and GIF, the Generator is responsible, to the extent required by ERCOT Requirements and Good Utility Practice, for protection of such facilities from such conditions as negative sequence currents, over and under frequency events, sudden load rejection, over or under voltage, Generator loss of field, inadvertent energization (reverse power) and un-cleared transmission system faults.

- B) Generator shall provide two sets of protective relaying accuracy (C800) current transformers on Generator's 138 kV circuit breakers associated with the protective relaying between GIFSUB and the Worsham Substation. Each set of current transformers will provide signals to independent sets of primary and backup protective relays for the interconnecting lead between the GIFSUB and the Worsham Substation. The current transformer ratio will be approved by the TSP relay protection engineer and reflected on the Generator's drawings.
  - C) The Plant and GIF shall have protective relaying that is consistent with relaying criteria described in the ERCOT Requirements and North American Electric Reliability Corporation standards. If requested by the TSP, Generator shall provide corrections or additions to existing control and equipment required to protect the transmission system, provided such corrections or additions are required by ERCOT Requirements and Good Utility Practice.
  - D) Prior to modifying any relay protection system design or relay setting involving the connection between the Plant and the TSP System, Generator shall submit the proposed changes to TSP for review and approval. TSP review and approval shall be for the limited purpose of determining whether the proposed changes are compatible with the TSP transmission system so as to not affect the ERCOT system and shall not be unreasonably withheld or delayed.
  - E) In accordance with Good Utility and Practice, the 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 such protection requirements and such comments shall not be unreasonably refused when determining such requirements. The TSP and Generator shall work together to coordinate the relay system protection between GIF and the TSP transmission system so as to not affect the ERCOT system. Relaying may require updating from time to time, and the Parties will be responsible to update, at their costs, the relay enhancements consistent with Good Utility Practice.
  - F) The fiber optic communication cables between the Worsham Substation control house and the GIFSUB control house will have approximately 60 strands of single mode fiber optic cable to be utilized at 1300 nm wavelength for communication of protection data. TSP will be responsible for installing, owning, testing, maintaining, and replacing fiber optic cable from Worsham Substation control house on the 138Kv transmission line to splice enclosure at GIF line dead-end structure. GIF will be responsible for installing, owning, testing, maintaining and replacing fiber cable including the splice enclosure at the GIF dead-end structure to the GIFSUB control house. Generator and TSP will coordinate in good faith to troubleshoot, test, isolate, repair, restore and replace fiber optic cable as may be required for reliable communications.
- 11) Telemetry Requirements:  
Real-time and other data and electrical parameters will be communicated from the TSP and GIF to ERCOT for communication to the other party via ERCOT ICCP

12) Supplemental Terms and Conditions:

**Practices for Parallel Generation**

In addition to installing any specified protective devices for disconnection from the power system, Generator must install and maintain equipment to monitor and verify the proper interconnected operation (both transient and steady state) for expected power system disturbances.

If any generating unit at the Plant is an induction machine or if an inverter system is being considered for the Plant, Generator shall consult with TSP during the planning and design process and provide additional information if requested by TSP.

**General Operating and Design Requirements**

TSP's nominal transmission voltage is 138 kV.

Generator shall change its facilities or equipment as may be reasonably required by TSP to meet future changes in the TSP System. Generator shall be given reasonable notice by TSP prior to the date that any such required change in the GIF must be made.

The Parties shall develop and execute operating procedures to facilitate the coordination and energization of the GIF. The Parties will reasonably cooperate in properly synchronizing the Plant with the TSP System. Generator shall provide to TSP for review the most current specifications, control drawings and one-line diagrams for the GIF and any associated equipment. TSP will review and provide comments at its discretion on those portions of the drawings and diagrams that affect the TSP System. Any changes required by TSP shall be made prior to final issue of drawings and Generator shall provide TSP with final copies of the revised drawings. TSP's review of and comment on Generator's specifications, control drawings or one-line diagrams shall not be construed as confirming, warranting, or endorsing any design, plans, equipment choice, nor the safety, durability, suitability, or reliability of the Plant, GIF, or other equipment.

Generator shall not energize de-energized TIF circuits, unless under direction of the TSP.

The Generator step up transformer shall be connected to the TIF and shall be connected to the GIF using 3-winding Y-Delta-Y configuration .

The Plant shall not cause objectionable interference with the electric service provided to other customers by the TSP nor jeopardize the security of the ERCOT power system. In order to minimize objectionable interference of the Plant, the Plant shall meet the following criteria:

a) Voltage - The Plant shall not cause excessive voltage excursions. Generator shall operate its Plant in such manner that the voltage levels on the TSP System are in the same range as if the Plant was 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.

b) Flicker - The Plant 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.

c) 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.

d) Harmonics, Telephone Interference and Carrier Interference - The Plant shall not introduce excessive distortion of the TSP System waveforms, voltage and current, telephone interference, or carrier interference at the Point of Interconnection. IEEE Standard 519 shall be used as a guide.

e) 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 serving the Plant radially. Generator is responsible for the electrical stability of its Plant and providing adequate GIF so that critical fault clearing times are met.

It is the sole responsibility of Generator to protect its Plant and GIF from excessive negative sequence currents.

Generator is solely responsible for the protection of its Plant from automatic reclosing by TSP. When TSP's source breakers trip and isolate the Plant, Generator shall use Reasonable Efforts to ensure that its generation is disconnected from the Point of Interconnection prior to automatic reclosure by TSP.

Generator may not commence parallel operation of the Plant until consent has been given by TSP. TSP reserves the right to inspect the GIF and witness testing of any equipment or devices associated with the Point of Interconnection.

Generator shall maintain an operating log at the Plant, which at a minimum will indicate changes in operating status (available or unavailable) of the GIF, maintenance outages, trip indications or other unusual conditions found upon inspection. For generators that are "block-loaded" to a specific MW level, changes in this setting shall also be logged. TSP may waive this requirement at its discretion. Reliability information, as required by ERCOT Requirements, will be maintained by Generator.

## **Safety**

Generator personnel and their invitees and agents are to be fully aware of the existence and location of TSP's transmission, substation and distribution facilities. Generator personnel and their invitees and agents shall be knowledgeable of the risks of conducting activities in the vicinity of such facilities and be knowledgeable of the procedures and precautions necessary to minimize such risks. This includes, but is not limited to, those set for in the OSHA regulations, National Electric Safety Code (NESC, ANSI C2-1990), National Electrical Code (NEC), and Sections 754.001 *et.*



*seq.* of the Texas Health and Safety Code.

**Miscellaneous**

To the extent that any payment made by Generator to TSP pursuant to Sections 2.2 and 8.3 of Exhibit "A" is taxable income for federal income tax purposes, as determined by TSP, such payment shall be increased by an adder, as determined by TSP in accordance with its normal practices, to cover the effects of Generator's payment on TSP's tax liability.

The Parties acknowledge and agree that the interconnection studies were performed, and the TIF was designed, on the basis of the Plant generating the Planned Capacity. Generator agrees that it will operate the Plant such that the Plant does not generate electrical energy in excess of the Planned Capacity; provided, however, that with the prior written consent of TSP, Generator may operate the Plant to generate more electrical energy than the Planned Capacity to the extent consented to by TSP.

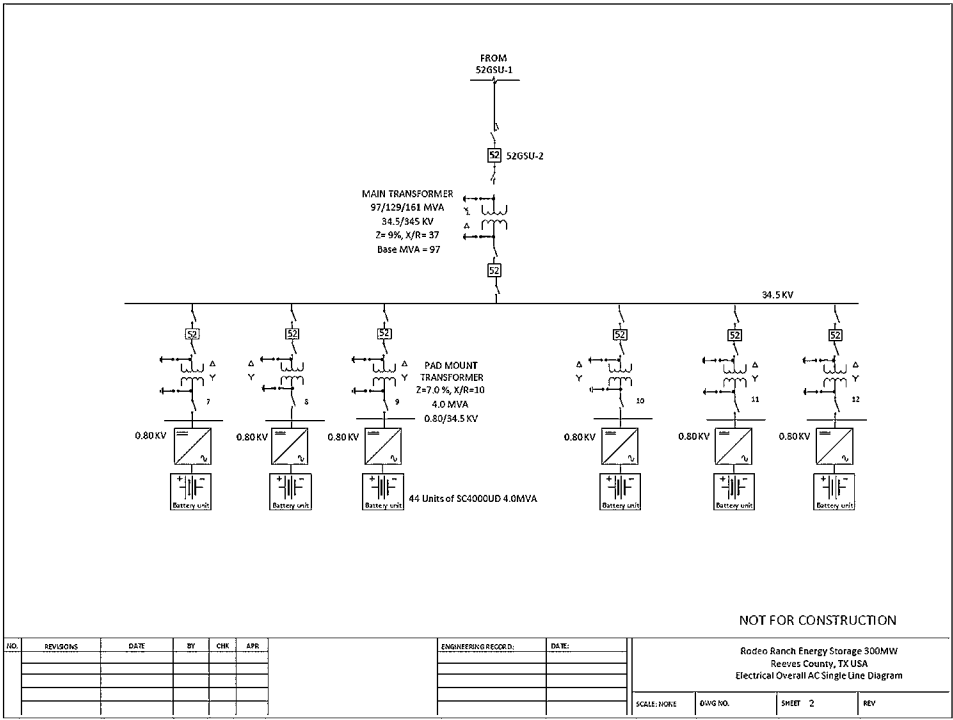
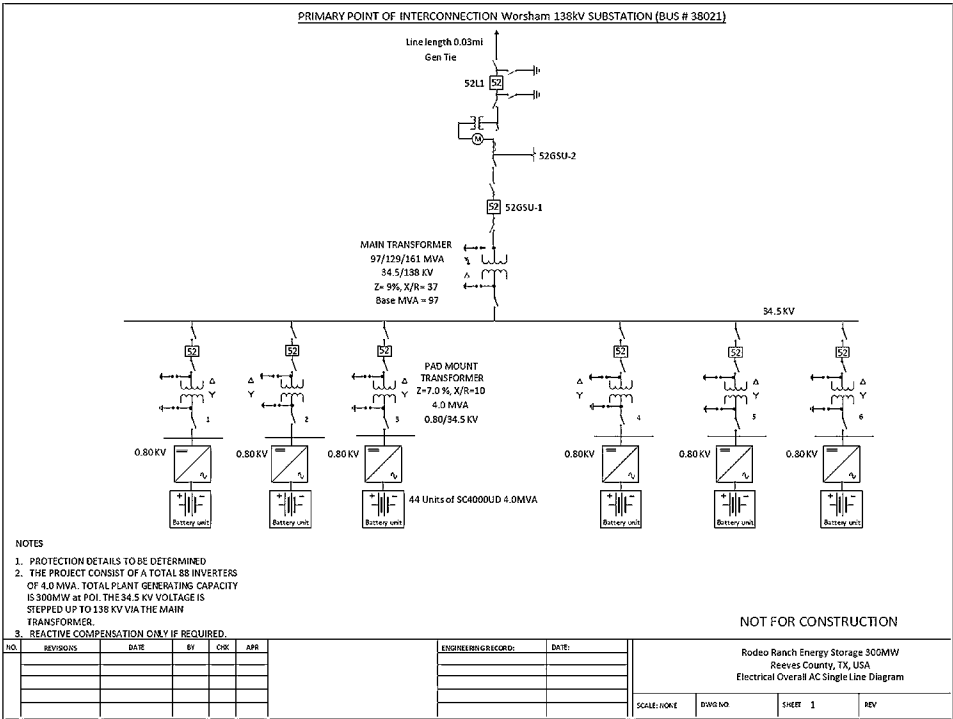
For energy that is not Wholesale Storage Load, the TSP considers the energy and power that the Plant and GIF may from time to time consume from the transmission grid through the Point of Interconnection to be a retail transaction and as such, the TSP will not be the provider of this retail service. Generator shall make necessary arrangements with an appropriate retail supplier for the energy and power that the Plant and GIF may consume from the transmission grid through the Point of Interconnection.

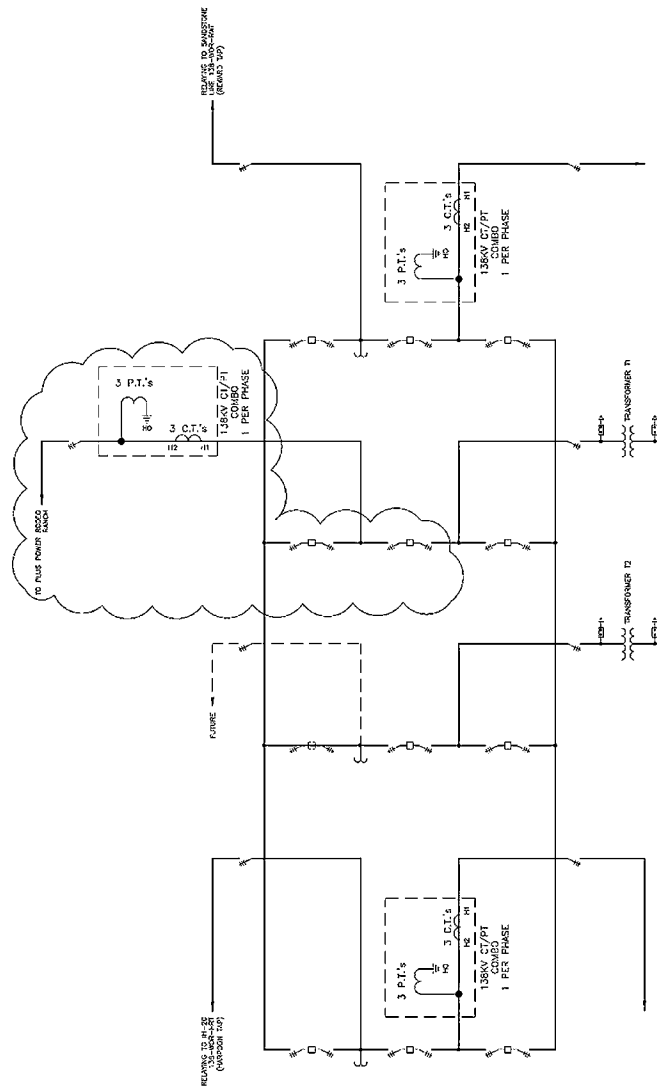
1) Special Operating Conditions, if any, attached:

None.

2) 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: \_\_\_\_\_, if applicable.

Exhibit “C1”  
One Line Diagram – TSP Interconnection Facilities and Generation Interconnection  
Facilities





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

F(a) All notices of an operational nature shall be in writing and/or may be sent between the Parties via electronic means including facsimile as follows:	
If to: Texas-New Mexico Power Company Attn: System Operations 2641 Hwy 6 Alvin, TX 77511 24 Hour Telephone (281) 581-4705 Operational/Confirmation Fax (281) 388-0030 E-mail SOCoperators	If to  Company Name: Rodeo Ranch Energy Storage, LLC c/o Plus Power Attn: Chris Quaranta Address: 1780 Hughes Landing Blvd, Suite 675 City, State, Zip: The Woodlands, TX 77381 24 Hour Telephone: (508) 277-4484 Operational/Confirmation Fax ( ) - E-mail <a href="mailto:cquaranta@pluspower.com">cquaranta@pluspower.com</a>
(b) Notices of an administrative nature:	
If to: Texas-New Mexico Power Company  Attn: Engineering Director 577 N Garden Ridge Blvd Lewisville, TX 75067 Phone: (214) 222-4144 Fax: (972) 420-7628 E-mail: <a href="mailto:EngineeringDirector@tnmp.com">EngineeringDirector@tnmp.com</a>	If to  Company Name: Rodeo Ranch Energy Storage, LLC c/o Plus Power Attn: Brandon Keefe, General Manager Address: 1237 9 <sup>th</sup> Avenue City, State, Zip: San Francisco, CA 94122 Phone: 818-620-6645 Fax: ( ) - E-mail: <a href="mailto:bkeefe@pluspower.com">bkeefe@pluspower.com</a>  <b><u>Copy:</u></b> Company Name Rodeo Ranch Energy Storage, LLC c/o Plus Power Attn: Enrique Silva Address: 1780 Hughes Landing Blvd, Suite 675 City, State, Zip: The Woodlands, TX 77381 24 Hour Telephone: (832) 991-5044 Operational/Confirmation Fax ( ) - E-mail <a href="mailto:esilva@pluspower.com">esilva@pluspower.com</a>
(c) Notice for statement and billing purposes:	
If to: Texas-New Mexico Power Company  Attn: Karen Corrigan	If to

2641 Hwy 6 Alvin, TX 77511 Phone: (281)581-4717 E-mail: Karen.Corrigan@tnmp.com	Company Name: Rodeo Ranch Energy Storage, LLC Attn: Accounting Address: P.O. Box 170684 City, State, Zip San Francisco, CA 94117 Phone: (303) 921-5557_____ E-mail: accounting@plusenergystorage.com_____
(d) Information concerning electronic funds transfers: <sup>1</sup>	
If to: Texas-New Mexico Power Company  Bank Name Wells Fargo Bank City, State Albuquerque, NM ABA No. 121000248 for credit to: TNMP Depository Account No. 412-148-8159	If to  Bank Name: JPMorgan Chase Bank City, State: San Francisco, CA 94109 ABA No.: 021000021 for credit to: Plus Power LLC Account No: 269592900
(e) For all matters relating to NERC Reliability Standards MOD-026 and MOD-027:	
If to: Texas-New Mexico Power Company Attn: Manager of Transmission Planning E-mail: MOD-026/027@tnmp.com	Company Name Rodeo Ranch Energy Storage, LLC c/o Plus Power Attn: Ravi Beeravalli Address 1780 Hughes Landing Blvd, Suite 675 City, State, Zip: The Woodlands, TX 77381 Phone: 218-387-4538 Fax: (____) ____ - ____ E-mail: rbeeravalli@pluspower.com

<sup>1</sup> Within thirty (30) days of execution of this Agreement, the Parties will exchange instructions regarding the transfer of funds to be used to pay invoices hereunder, including instructions regarding how to make payments by wire transfer.

## Exhibit “E” Security Arrangement Details

By no later than the date and time at which the Generator provides TSP with written authorization to proceed pursuant to Section 4.2, the Generator shall provide Performance Assurance (as defined below) to the TSP in the form of cash deposits in accordance with Section 8.3, on the dates and for the Maximum Stated Amounts set forth below. Cash deposits provided by Generator as security shall be acknowledged by TSP with a written receipt. The Generator shall provide and maintain Performance Assurance in an amount not less than the Maximum Stated Amounts set forth below. All fees and charges relating to the Performance Assurance shall be borne by the Generator.

The Maximum Stated Amounts and Effective Dates of the Performance Assurance shall be as follows:

<b>Maximum Stated Amount</b>	<b>Effective Date</b>
Initial amount of \$300,000for Design and Engineering	February 1, 2022
Additional amount of \$1,100,000 for Procurement	February 1, 2022
Additional amount of \$1,100,000for Construction to bring Total to <b>\$2,500,000</b>	September 1, 2022

If at any time the amount of Performance Assurance held by the TSP is less than the Maximum Stated Amount required at such time, then the TSP may request that the Generator provide additional Performance Assurance to the TSP in an amount equal to such deficiency. Within twenty business days after receipt of such a written request, the Generator will provide such requested Performance Assurance to the TSP.

If the TSP reasonably determines that the costs of planning, licensing, procuring equipment and materials, and/or constructing the TIF has increased or will increase as a result of any Force Majeure event, any acts or omissions of the Generator (including, without limitation, failure to provide any notice to proceed or security by the date(s) required), any delay in the occurrence of events required to be completed by specific dates as described in Exhibit “B”, any change in the Facility or the GIF, or any other events or circumstances outside of the reasonable control of the TSP, then the TSP may request that the Generator provide additional Performance Assurance to the TSP in the amount of the estimated increase in costs; provided that TSP may not increase the amount of Performance Assurance to an amount exceeding fifteen percent above the Collateral Amount. Within twenty business days after receipt of such a written request, the Generator will provide such requested Performance Assurance to the TSP.

Failure to provide and maintain Performance Assurance as and when required by this Agreement, including, without limitation, any failure to provide additional Performance Assurance, or to provide replacement Performance Assurance as and when required, and failure to cure same within 20 days after notice from TSP regarding such failure, shall be deemed a Default of the Generator under Section 10.6 of this Agreement; provided, such cure period shall be the only cure period applicable to such failure, and no other cure period in Section 10.6 shall apply, and the TSP may exercise all rights and remedies in connection with such Default.

Performance Assurance shall secure the performance by the Generator of its obligations under this Agreement. As security for the payment of all amounts due or that may become due from the Generator to the TSP under this Agreement, the Generator hereby grants to the TSP a pledge of and a first priority continuing security interest in and lien on and right of setoff against any cash held by the TSP as Performance Assurance. In addition to any other rights and remedies that may be available to the TSP under this Agreement (including, without limitation, Section 8.3) or otherwise, if the Generator fails to pay any amount hereunder when due, then the TSP may exercise one or more of the following rights and remedies: (i) exercise its rights of setoff against the Performance Assurance; and (ii) exercise any and all rights and remedies available to a secured party under applicable laws and regulations with respect to the Performance Assurance. The TSP shall apply any such setoff against the Performance Assurance to reduce the Generator's obligations under this Agreement (the Generator remaining liable for any amounts owing to the TSP after such application).

Within five business days after the Facility has achieved Commercial Operation and the TSP has received written notification from the Generator thereof, or if applicable, within five business days after all obligations of the Generator hereunder following the termination of this Agreement have been satisfied, then the TSP shall release and return to the Generator any remaining Performance Assurance and any associated interest provided by the Generator under this Agreement; provided that the TSP may retain Performance Assurance as permitted pursuant to this Agreement.

As used herein, each of the following terms shall have the meaning set forth below:

"Collateral Amount" means an amount equal to two million five hundred thousand dollars (\$2,500,000) provided that Collateral Amount shall be increased by any additional amount of Performance Assurance requested by the TSP as described in the third paragraph of this Exhibit "E".

"Performance Assurance" means any cash held by TSP as security as set forth in this Agreement, including Section 8.3 and this Exhibit "E".

**Exhibit “F”**  
**Facility Interconnection Requirements**





# **Texas-New Mexico Power Company**

## **Facility Interconnection Requirements**

Revision 7

April 29, 2020

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**A Document Review**

- This document shall be reviewed annually for completeness
- Reviews shall be coordinated by the Director, System Operations and shall include all relevant personnel.
- References to “Annual” or “Annually” in this document shall mean once per calendar year unless otherwise noted.
- Revisions to this plan will be tracked using MS Word track changes feature and noted as applicable in the revision history table in Section F. If no changes are made, the annual review shall be reflected in the Revision History and the document will be re-executed by the Director, System Operations.
- This document shall be approved by the Director, System Operations by signing and dating below.
- A DocMinder notification shall be used as an internal control to ensure timely reviews are conducted of this document.
- The latest signed copy of this page can be found in Section G: Signed Document Review Page

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Director, System Operations

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Approval Date

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Implementation Date

**B Definitions and Acronyms**

**End-User Facility** - All electrical equipment up to the point of interconnection to the Transmission system for the sole purpose of serving load and connected such that power is not transferred from one or more points on the Transmission system to any other point on the Transmission system.

**ERCOT** – Electric Reliability Council of Texas

**FIS** – Full Interconnection Study. A comprehensive, multiple facet study of a proposed Generation Facility interconnection or proposed Material Modification of an existing Generation Facility.

**Generation Facility** – All electrical equipment required to generate electricity and interconnect a generator up to the point of interconnection to the Transmission system.

**Good Utility Practice** – That which is described in PUCT Substantive Rule 25.5(56).

**IE** – Interconnecting Entity. Refers to a generation developer entity that has an active request in ERCOT Generation Resource Interconnection or Change Request procedure outlined in Section 5 of the ERCOT Planning Guide.

**Materially Modified** – A modification to a Generation Facility, Transmission Interconnection Facility or End-User Facility that meets the following criteria.

**For a Generation Facility with an aggregate power output of 10 MW or greater** – Any change specified in Section 5.1.1(1)(b) of the ERCOT Planning Guide.

**For a Generation Facility with an aggregate power output of less than 10 MW** – An increase in the real power capability exceeding 10% of pre-increase real power capability.

**For a Transmission Interconnection Facility** – Any of the following:

- Topology change
- Circuit impedance change
- A decrease in circuit rating exceeding 10% of pre-decrease rating
- Any reduction in the capability of a reactive resource
- Any change in the dynamic response of a reactive resource
- Any change in the protection timing or coordination
- A change in the availability exceeding one year

**For an End-User Facility** – Any of the following:

- A change in demand exceeding 10% of pre-change demand
- Installation of a motor 500 hp or larger where no motors previously existed
- Addition of a motor exceeding the size of all other motors connected within the same End-User Facility
- Any change in harmonic levels

**NERC** – North American Electric Reliability Corporation

**NERC Reliability Standards** – Documented standards that define the reliability requirements for planning and operating the North American bulk power system.

**Network Operations Model** – A power system model of the ERCOT Interconnection used for operational and planning studies. See Section 2 of the ERCOT Nodal Protocols for a more detailed definition.

**Network Operations Model Change Request** – The method for making changes to the Network Operations Model. See the document “*Network Operations Modeling Expectations for TSPs, REs, and QSEs*”, located on the ERCOT website under Market Rules\Business Practice Manual, for detailed information.

**Tie-Circuit** – A set of Transmission Components that has the following attributes:

- a. Is wholly contained within the bounds of a zone of protection and
- b. Is comprised of a Transmission Interconnection Facility, creating a path for the transfer of power between a TNMP-owned Transmission system and a Transmission system owned by another Transmission provider.

**Transmission** – All electrical equipment designed and operated at voltages of 60 kV and higher intended for transferring power between points of supply and points at which it is transformed for delivery to customers or is delivered to other electric systems. All electrical equipment intended for the transformation of voltages 60 kV and higher to voltages less than 60 kV for delivery of power to customers are excluded from this definition.

**Transmission Component** – Any single unit of electrical equipment that is intended to transfer real and/or reactive power from one point on the Transmission system to another point on the Transmission system such as a jumper, bus section, breaker, switch, line conductor, transformer, shunt capacitor, etc.

**Transmission Facility** – Used in two ways within this document:

- a. A set of Transmission Components or
- b. Used interchangeably with Transmission Component.

**Transmission Interconnection Facility** – All Transmission Components connected directly at a defined point of interconnection between a TNMP-owned Transmission system and a Transmission system owned by another Transmission provider.

**Transmission Service Provider** – See Section 2 of the ERCOT Nodal Protocols.

## **C Facility Interconnection Requirements**

### **C.1 Facility Scope**

#### **C.1.1 Generation Facilities**

##### **C.1.1.1 General Requirements**

These requirements shall apply to all new Generation Facilities connected to the TNMP Transmission system. Additionally, these requirements shall apply to all Material Modifications of existing Generation Facilities.

a. Both TNMP and Non-TNMP Requirements Apply

All new or Materially Modified Generation Facilities shall comply with all applicable codes, standards, government regulations, environmental regulations, siting requirements, contracts, operating agreements, and tariff requirements related to Generation Facilities. These include, but are not limited to, all NERC Reliability Standards, ERCOT Protocols, the ERCOT Operating Guide, and other applicable ERCOT binding documents. The ERCOT Protocols, the ERCOT Operating Guide, and other applicable ERCOT binding documents are regional reliability standards that go beyond, add detail to, or implement NERC Reliability Standards, or that cover matters not addressed in NERC Reliability Standards.

b. Inspections

Generation Facilities that are connected to the TNMP Transmission system must be made available for inspection by appropriate TNMP personnel and verified as meeting interconnection requirements prior to being placed in service. TNMP reserves the right to deny interconnect rights if the facilities do not meet applicable legal and electrical requirements. Generation Facilities must be made available for subsequent inspections as needed.

##### **C.1.1.2 Planning Requirements**

a. Generation Facilities 10 MW and Greater

- i. An IE requesting Transmission interconnection for new generation, adding generating capacity (more than 10 MW within a year) at an existing plant, or changing the connection of an existing plant must submit an application to ERCOT in accordance with Section 5 of the ERCOT Planning Guide. The application shall include information necessary to allow timely development, design, and implementation of electric system enhancements needed to serve the IE's requirements. The information must include sufficient detail for use in establishing transfer capabilities, operating limits (including stability) and planning margins to provide both reliability and operating efficiency, designing future system facility additions, and facilitating coordinated planning.
- ii. ERCOT will perform an initial screening study. If the IE agrees to continue after completion of the initial screening study, TNMP will enter into a FIS agreement with the IE.

- iii. TNMP will perform a FIS to evaluate the system impact. The FIS includes a steady-state study, fault duty analysis, dynamic stability study, facility study, cost of interconnecting the Generation Facility to the Transmission system, a scope of necessary upgrades to the Transmission system, estimated time to make upgrades to the Transmission system, and may include a cost estimate for associated upgrades to the Transmission system.
- iv. If the IE elects to proceed with the Generation Facility, TNMP will enter into a Standard Generation Interconnection Agreement with the IE and proceed with provision of the point of interconnection and making the necessary Transmission system upgrades.
- v. Additional information can be found in Section 5 of the ERCOT Planning Guide.

b. Small Generation Connections Less Than 10 MW

- i. Generation facilities 10 MW or less are classified as distributed generation and are normally interconnected to the distribution system.
- ii. Interconnection studies must be performed as necessary to determine the impact on the distribution system for a new facility or Material Modifications to the existing facility.
- iii. Additional information concerning the interconnection of distributed generation can be found in PUC Substantive Rules 25.211, 25.212, and 25.213.

c. All Generation Facility interconnection studies are performed in accordance with NERC Reliability Standards, which promote and maintain the reliability and security of the interconnected power system. These studies will, at a minimum, consider the following factors:

i. Power-Flow Analysis

A power-flow analysis is conducted by establishing a model of the power system and simulating certain specified operating conditions. The results predict power-flow magnitudes and voltage levels under normal system conditions and during the loss of one or more individual system elements. The power-flow analysis enables the prediction of equipment overloads and the determination of excessive voltage drops, which may be encountered.

ii. Short Circuit Analysis/Breaker Rating Analysis

A short circuit (*i.e.*, fault current) analysis may be performed to determine the effect that the new generation will have on the system fault currents. These data will be used to evaluate the impact of the generation on the fault duty (*i.e.*, interrupting capability or rating) of the previously installed equipment such as circuit breakers and switches.

iii. Transient Stability Analysis

A transient stability analysis may be performed to determine the Transmission system's response to a sudden change in the state of the system due to faults on the system and unit outages. Specifically, the analysis will evaluate the Transmission



system in the area of the added generation as well as the generator's response following faults in the system.

- iv. TNMP Transmission Operations representatives will provide a list of data requirements needed for the studies from the IE regarding the new Generation Facility or Material Modifications to the existing Generation Facility.

#### **C.1.1.3 Design Requirements**

The design for Generation Facility interconnection equipment shall comply with Section C.2. Additionally, all requirements identified as a result of the Transmission studies shall be incorporated into the design process. These requirements may include the following issues:

- Supervisory control and data acquisition
- Telemetry and metering
- Equipment ratings
- Short circuit conditions
- System protection and other controls
- System grounding

TNMP will coordinate the design and construction of newly built and of modified point of interconnection facilities with the IE.

#### **C.1.1.4 Operations and Maintenance**

All Generation Facility interconnection equipment shall be maintained and operationally tested in order to meet current requirements as specified by TNMP System Operations and TNMP transmission and/or distribution engineering groups, as further defined in the following sections of this document:

- Section C.2.1
- Section C.2.7
- Section C.2.10
- Section C.2.11
- Section C.2.13

TNMP will coordinate the maintenance of newly built and of modified point of interconnection facilities with the IE.

### **C.1.2 Transmission Facilities**

Addition and/or Material Modification of Transmission Facilities may be generated by internal reliability studies related to NERC Reliability Standards, by internal studies at the request of an interconnecting Transmission Owner, or by ERCOT reliability and/or economic studies. In rare instances, addition and/or Material Modification of Transmission Facilities may be studied and implemented at the request of an independent power producer.

#### **C.1.2.1 General Requirements**

These requirements shall apply to all new Transmission Facilities connected to the TNMP Transmission system. Additionally, these requirements shall apply to all Material Modifications of existing Transmission Facilities.

a. Both TNMP and Non-TNMP Requirements Apply

All new or Materially Modified Transmission Facilities shall comply with all applicable codes, standards, government regulations, environmental regulations, siting requirements, contracts, operating agreements, and tariff requirements related to Transmission Facilities. These include, but are not limited to, all NERC Reliability Standards, the ERCOT Protocols, the ERCOT Operating Guide, and other applicable ERCOT binding documents. The ERCOT Protocols, the ERCOT Operating Guide, and other applicable ERCOT binding documents are regional reliability standards that go beyond, add detail to, or implement NERC Reliability Standards, or that cover matters not addressed in NERC Reliability Standards.

b. Inspections

Transmission Facilities that are connected to the TNMP Transmission System must be made available for inspection by appropriate TNMP personnel and verified as meeting interconnection requirements prior to being placed in service. TNMP reserves the right to deny interconnect rights if the facilities do not meet applicable legal and electrical requirements. Transmission Facilities must be made available for subsequent inspections as needed.

#### **C.1.2.2 Planning Requirements**

Notification of the intent to connect new Transmission Facilities or to Materially Modify existing Transmission Facilities already connected to the TNMP Transmission System shall be provided.

Parties planning Transmission Facility additions that affect the TNMP Transmission system, whether or not they are directly connected to TNMP Transmission system, are obligated to include TNMP in its planning process.

Prior to initiation of transmission planning studies for connection of new Transmission Facilities or for Material Modifications to existing Transmission Facilities already connected to the TNMP Transmission System, TNMP confirms the requesting entity is registered with ERCOT as a Transmission Service Provider pursuant to Section D.3.

Transmission planning studies must be performed as necessary to determine the impact on the interconnected Transmission system when connecting new and/or Materially Modified Transmission Facilities.

a. Power-Flow Analysis

A power-flow analysis is conducted by establishing a model of the power system and simulating certain specified operating conditions. The results predict power-flow magnitudes and voltage levels under the loss of any individual system element. The power-flow analysis enables the prediction of equipment overloads and the determination of excessive voltage drops, which may be encountered.

b. Short Circuit Analysis/Breaker Rating Analysis

A short circuit (*i.e.*, fault current) analysis may be performed to determine the effect that the new Transmission Facility or Materially Modified Transmission Facility will have on the system fault currents. The study results will be used to evaluate the impact of the Transmission Facility addition or Material Modification on the fault duty (*i.e.*, interrupting capability or rating) of previously installed equipment such as circuit breakers and switches.

c. Transient Stability Analysis

A transient stability analysis may be performed to determine the Transmission system's response to a sudden change in the state of the system due to faults on the system and unit outages. Specifically, the analysis will evaluate the Transmission system in the area of the added or Materially Modified Transmission Facility following faults in the system.

TNMP Transmission Planning representatives will provide a list of data requirements needed from the requestor to conduct requisite planning studies of the new Transmission Facility or Material Modifications to an existing Transmission Facility.

### **C.1.2.3 Design Requirements**

The design for Transmission Facilities shall comply with Section C.2. Additionally, all requirements identified as a result of the Transmission studies shall be incorporated into the design process. These requirements may include the following issues:

- Supervisory control and data acquisition
- Telemetry and metering
- Equipment ratings
- Short circuit conditions
- System protection and other controls
- System grounding

TNMP Transmission Engineering representatives will provide a list of data requirements needed from the requestor regarding the new Transmission Facility or Material Modifications to the existing Transmission Facility.

The design and construction of newly built and of modified point of interconnection facilities will be coordinated with the Transmission Facility owner.

### **C.1.2.4 Operations and Maintenance**

Prior to energization of any point of interconnection associated with new Transmission Facilities or with Material Modifications to existing Transmission Facilities, TNMP confirms the requesting entity has

modeled its corresponding Transmission Interconnection Facilities within the ERCOT Network Operations Model pursuant to Section D.3.

All interconnecting Transmission Facilities shall be maintained and operationally tested in order to meet current requirements as specified by TNMP System Operations and TNMP transmission engineering groups, as further defined in the following sections of this document:

- Section C.2.2
- Section C.2.3
- Section C.2.4.2
- Section C.2.5
- Section C.2.6
- Section C.2.8
- Section C.2.9
- Section C.2.11
- Section C.2.12
- Section C.2.13
- Section C.2.14

The maintenance of newly built and of modified point of interconnection facilities will be coordinated with the Transmission Facility owner.

### C.1.3 End-User Facilities

#### C.1.3.1 General Requirements

These requirements shall apply to all new End-User Facilities connected to the TNMP Transmission System. Additionally, these requirements shall apply to all Material Modifications of existing End-User Facilities.

c. Both TNMP and Non-TNMP Requirements Apply

All new or Materially Modified End-User Facilities shall comply with all applicable codes, standards, government regulations, environmental regulations, siting requirements, contracts, operating agreements, and tariff requirements related to End-User Facilities. These include, but are not limited to, all NERC Reliability Standards, ERCOT Protocols, the ERCOT Operating Guide, and other applicable ERCOT binding documents. The ERCOT Protocols, the ERCOT Operating Guide, and other applicable ERCOT binding documents are regional reliability standards that go beyond, add detail to, or implement NERC Reliability Standards, or that cover matters not addressed in NERC Reliability Standards.

d. Inspections

End-User Facilities that are connected to the TNMP Transmission System must be made available for inspection by appropriate TNMP personnel and verified as meeting interconnection requirements prior to being placed in service. TNMP reserves the right to deny interconnect rights if the facilities do not meet applicable legal and electrical requirements. End-User Facilities must be made available for subsequent inspections as needed.

#### C.1.3.2 Planning Requirements

Notification of the intent to connect new End-User Facilities or to Materially Modify existing End-User Facilities already connected to the TNMP Transmission System shall be provided.

Transmission planning studies must be performed as necessary to determine the impact on the interconnected Transmission system when connecting new and/or Materially Modified End-User Facilities.

a. Power-Flow Analysis

A power-flow analysis is conducted by establishing a mathematical model of the power system and simulating certain specified operating conditions. The results predict power-flow magnitudes and voltage levels under the loss of any individual system element. The power-flow analysis enables the prediction of equipment overloads and the determination of excessive voltage drops, which may be encountered.

b. Short Circuit Analysis/Breaker Rating Analysis

Although not typically performed as part of the assessment to integrate an End-User Facility, a short circuit (*i.e.*, fault current) analysis may be performed to determine the effect that the new End-User Facility will have on the system fault currents. The study results will be used to evaluate the impact of the End-User Facility addition or Material Modification on the fault

duty (*i.e.*, interrupting capability or rating) of previously installed equipment such as circuit breakers and switches.

c. Transient Stability Analysis

Although not typically performed as part of the assessment to integrate an End-User Facility, a transient stability analysis may be performed to determine the Transmission system's response to a sudden change in the state of the system due to faults on the system and unit outages. Specifically, the analysis will evaluate the Transmission system in the area of the added End-User Facility or Materially Modified End-User Facility, as well as the End-User Facility response following faults in the system.

d. Motor Starting Analysis

A motor starting analysis may be performed to determine the effect that the new End-User Facility or Materially Modified End-User Facility will have on Transmission system voltages. The motor starting analysis quantifies the amount of voltage sag which can be expected on the Transmission system as a result of starting motors within the End-User Facility.

TNMP Transmission Planning representatives will provide a list of data requirements needed from the requestor to conduct requisite planning studies of the new End-User Facility or Material Modifications to an existing End-User Facility.

### **C.1.3.3 Design Requirements**

- a. The design for End-User Facilities shall comply with Section C.2. Additionally, all requirements identified as a result of the Transmission studies shall be incorporated into the design process. These requirements may include the following issues:
- Supervisory control and data acquisition
  - Telemetry and metering
  - Equipment ratings
  - Short circuit conditions
  - System protection and other controls
  - System grounding
- b. TNMP's standard design for transmission service to an End-User Facility connected radially from a transmission line tap specifies a transmission circuit breaker on the radial transmission feed to facilitate isolation of faults on the radial transmission feed and, when applicable, disconnection of the End-User facility for under-frequency and under-voltage conditions.
- c. Under-frequency relaying may be utilized to interrupt service to End-User Facilities to meet ERCOT requirements for under-frequency load shed.
- d. Under-voltage relaying may be utilized to interrupt service to End-User Facilities based on system studies conducted by TNMP, ERCOT, and/or other Transmission Service Providers.

The design and construction of newly built and of modified point of interconnection facilities will be coordinated with the End-User Facility owner.

#### **C.1.3.4 Operations and Maintenance**

All interconnecting End-User Facilities shall be maintained and operationally tested in order to meet current requirements as specified by TNMP System Operations and TNMP transmission engineering groups. These requirements may include the following issues:

- Section C.2.1
- Section C.2.7
- Section C.2.10
- Section C.2.11
- Section C.2.13

The maintenance of newly built and of modified point of interconnection facilities will be coordinated with the End-User Facility owner.

## **C.2 Interconnection Criteria Considerations**

### **C.2.1 Voltage Level And MW/MVAR Capacity or Demand**

1. Voltage Level - Transmission Facilities may be used for providing service to commercial, industrial, and cogeneration customers when the use of distribution feeders is not practicable. Generally, the use of Transmission Facilities should be considered for the following conditions:
  - a. All loads and generation over 10 MVA
  - b. Locations remote from distribution facilities
  - c. Remote locations where distribution facilities are not adequate
  - d. Loads with nonstandard voltage requirements
  - e. Loads having large surge requirements
2. MW/MVAR Capacity or Demand
  - a. The End-User Facility customer shall provide TNMP with a load forecast for a 7 year period.
  - b. The customer will update the forecast annually.
3. Power Factor
  - a. Unless otherwise agreed, the End-User Facility customer is required to maintain at least a 95% lagging power factor at Transmission level delivery points.
  - b. If the End-User Facility customer does not maintain the agreed upon power factor, TNMP may install power factor correction equipment at the customer's expense.

### **C.2.2 Breaker Duty And Surge Protection**

1. All power system facilities shall be designed to carry the full anticipated load under normal and contingency conditions as determined by load flow studies.
2. All power system facilities shall be designed to withstand fault currents as determined by the fault study.
3. Power circuit breaker interrupting ratings shall be greater than the duties established by fault study with sufficient margin to account for asymmetry, normal variability in dielectric characteristics, and forecasted available fault current levels.
4. Surge protection for power circuit breakers is accomplished by means of line terminal surge arresters as detailed in Section C.2.6.

### **C.2.3 System Protection And Coordination**

1. The interconnecting entity shall, at its expense, install, operate, and maintain adequate system protection equipment. TNMP will install any system protection equipment that may be required on its point of interconnection facilities or the surrounding Transmission system.



2. Each party's protection facilities shall be designed and coordinated with other systems in accordance with Good Utility Practice.
3. Each party shall be responsible for protection of its facilities consistent with Good Utility Practice.
4. Each party's protective relay design shall incorporate the necessary test switches to perform the tests required in item 6 below. The required test switches shall be placed such that they allow operation of lockout relays while preventing breaker failure schemes from operating and causing unnecessary breaker operations.
5. Each party shall test, operate and maintain system protection facilities in accordance with Good Utility Practice.
6. Prior to the in-service date of an interconnecting facility, each Party or its agent shall perform a complete calibration test and functional trip test of the system protection facilities. At intervals suggested by Good Utility Practice and following any apparent malfunction of the system protection facilities, each Party shall perform both calibration and functional trip tests of its system protection facilities. These tests require that all protective relays and lockout contacts be activated.
7. Requirements for Protection
  - a. In compliance with Good Utility Practice, the interconnecting entity shall provide, install, own, and maintain relays, circuit breakers, and/or all other devices necessary to remove any fault contribution from the interconnecting facility to any short circuit occurring on the Transmission system not otherwise isolated by TNMP's system protection equipment, such that the removal of the fault contribution shall be coordinated with the protective requirements of the Transmission system.
  - b. Such protective equipment shall include, without limitation, a disconnecting device or switch with load-interrupting capability located between the interconnecting facility and the Transmission system at a site selected upon mutual agreement of the parties.
  - c. The interconnecting entity shall be responsible for protection of the interconnecting facility from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field.
  - d. The interconnecting entity shall be solely responsible to disconnect any generating facilities and other interconnecting facility equipment if conditions on the Transmission system could adversely affect the interconnecting facility.

## **C.2.4 Metering And Telecommunications**

### **C.2.4.1 Metering and Telecommunications for Generation Facilities and End-User Facilities**

1. **General.** Each Party shall comply with ERCOT requirements. Unless otherwise agreed by the Parties, TNMP shall install metering equipment at the point of interconnection prior to any operation of the interconnecting facility and shall own, operate, test, and maintain such metering equipment. Power flows to and from the interconnecting facility shall be measured at or, at TNMP's option, compensated to, the point of interconnection. TNMP will provide metering quantities, in analog and/or digital form, to the interconnecting entity upon request.

2. **Check Meters.** The interconnecting entity, at its option and expense, may install and operate, on its premises and on its side of the point of interconnection, one or more check meters to check TNMP's meters. Such check meters shall be for check purposes only.
3. **Standards.** TNMP shall install, calibrate, and test revenue quality metering equipment in accordance with applicable ERCOT requirements and ANSI standards. Operational telemetry is not required to be revenue quality metering.
4. **Testing of Metering Equipment.** TNMP will inspect and test all interconnection metering equipment that is required to be revenue quality upon installation and annually thereafter. TNMP will give reasonable notice of the time when any inspection or test will take place, and the interconnecting entity may have representatives present at the test or inspection.
5. **Metering Data.** The metered data shall be telemetered to one or more locations designated by TNMP and one or more locations designated by the interconnecting entity. Such telemetered data shall be used, under normal operating conditions, as the official measurement of the amount of energy delivered to or from the point of interconnection.
6. **Interconnecting Entity Obligations.** The interconnecting entity shall maintain satisfactory operating communications with TNMP's Transmission system dispatcher or representative designated by TNMP. Where applicable, the interconnecting entity shall provide a standard voice line for remote interrogation of meters. The interconnecting entity shall also provide any dedicated data circuit(s) necessary to provide interconnecting entity data to TNMP as may be set forth in an interconnection agreement. If applicable, the data circuit(s) shall extend from the interconnecting facility to the location(s) specified by TNMP. Any required maintenance of such communications equipment shall be performed by the interconnecting entity.
7. **Remote Terminal Unit.** Prior to the in-service date of an interconnecting facility, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the parties, shall be installed by TNMP to gather accumulated and instantaneous data to be telemetered to the location(s) designated by TNMP through use of communication path(s). The communication protocol will be specified by TNMP. At a minimum, instantaneous analog real power and reactive power flow information must be telemetered directly to the location(s) specified by TNMP.
8. Each party will promptly advise the other party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other party. The party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

#### **C.2.4.2 Metering and Telecommunications for Transmission Interconnection Facilities**

1. **General.** Each party shall comply with ERCOT requirements. Metering is required at both ends of a Tie-Circuit for operational monitoring purposes.
  - a. TNMP shall install metering equipment as needed at the TNMP-owned terminal of all Tie-Circuits. Such metering equipment can vary depending on the location but typically consists of breaker bushing current transformers, voltage instrument transformers, and a device such as a microprocessor relay for converting instantaneous analog current and voltage quantities to instantaneous analog real and reactive power quantities.
  - b. Interconnecting Transmission providers shall install metering equipment as needed at the interconnecting Transmission provider's terminal of all Tie-Circuits for operational monitoring purposes.

2. **Standards.** Both TNMP and the interconnecting Transmission provider shall install, calibrate, and test their respective Tie-Circuit metering equipment in accordance with applicable ERCOT requirements and ANSI standards.
3. **Metering Data.** Metering data for Tie-Circuits shall be telemetered for operational monitoring purposes.
  - a. Metering data from the TNMP-owned terminal of all Tie-Circuits:
    - i. Shall be telemetered to one or more locations designated by TNMP.
    - ii. Can be telemetered to one or more locations designated by the interconnecting Transmission provider if requested and appropriately coordinated.
  - b. Metering data from the interconnecting Transmission provider-owned terminal of all Tie-Circuits shall be telemetered for TNMP's use by at least one of the following methods:
    - i. Available through ICCP.
    - ii. Telemetered to one or more locations designated by TNMP.
4. **Interconnecting Transmission Provider Obligations.** The interconnecting Transmission provider shall maintain satisfactory operating communications with TNMP's Transmission system dispatcher or representative designated by TNMP. The interconnecting Transmission provider shall provide any dedicated data circuit(s) necessary to provide metering data from the interconnecting Transmission provider's terminal of a Tie-Circuit to TNMP as may be set forth in an interconnection agreement. If applicable, the data circuit(s) shall extend from the interconnecting Transmission provider's end of a Tie-Circuit to the location(s) specified by TNMP. Any required maintenance of such communications equipment shall be performed by the interconnecting Transmission provider.
5. **Remote Terminal Unit.**
  - a. Prior to the in-service date of a Tie-Circuit, a Remote Terminal Unit, or equivalent data collection and transfer equipment, shall be installed at the TNMP-owned terminal of the Tie-Circuit by TNMP to gather instantaneous data to be telemetered to the location(s) designated by TNMP through use of communication path(s). The communication protocol will be specified by TNMP. At a minimum, instantaneous analog real power and reactive power flow information must be telemetered directly to the location(s) specified by TNMP.
  - b. If metering data from the interconnecting Transmission provider-owned terminal of a Tie-Circuit will not be available through ICCP, a Remote Terminal Unit, or equivalent data collection and transfer equipment acceptable to the parties, shall be installed by either TNMP or the interconnecting Transmission provider prior to the in-service date of the Tie-Circuit to gather instantaneous data associated with the Transmission provider-owned terminal of a Tie-Circuit to be telemetered to the location(s) designated by TNMP through use of communication path(s). The communication protocol will be specified by TNMP. At a minimum, instantaneous analog real power and reactive power flow information must be telemetered directly to the location(s) specified by TNMP.
6. Each party will promptly advise the other party if it detects or otherwise learns of any metering, telemetry or communications equipment errors or malfunctions that require the attention and/or correction by the other party. The party owning such equipment shall correct such error or malfunction as soon as reasonably feasible.

**C.2.5 Grounding And Safety Issues**

1. Each interconnecting facility substation shall include a ground grid that is solidly connected to all metallic structures and other non-energized metallic equipment. This grid shall limit the ground potential gradients to such voltage and current levels that will not endanger the safety of people or damage equipment located in, or immediately adjacent to, the station under normal and fault conditions.
2. The ground grid sizing, configuration, and materials shall be selected based upon local soil conditions and maximum available electrical fault current magnitudes. In areas where ground grid voltage rises would not be within acceptable and safe limits (due, for example, to high soil resistivity or limited substation space), additional grounding rods and grounding wells shall be used to reduce the ground grid resistance to acceptable levels.
3. If a new ground grid is close to another substation, the two ground grids may be isolated or connected. If the ground grids are to be isolated, there shall be no metallic ground connections between the two substation ground grids. If the ground grids are to be interconnected, the interconnecting ground grid conductor cables shall be sized sufficiently to withstand fault currents and control ground grid voltage rises.
4. TNMP will approve any connection to a TNMP substation ground grid. New interconnections of Transmission lines and/or generation may increase fault current levels at nearby substations. Modifications may be required to the ground grids of existing substations to ensure that the ground grid voltage rises within safe levels. The connection study will determine if modifications are required and the estimated cost.
5. Grounding design criteria shall be based upon the following standards:

*ANSI/IEEE Std 80 - Guide for Safety in AC Substation Grounding*

*IEEE Std 81 Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System*

*IEEE Std 367 - Recommended Practice for Determining the Electric Power Station Ground Potential Rise and Induced Voltage from a Power Fault*

**C.2.6 Insulation And Insulation Coordination**

1. Transmission line insulators must comply with the Transmission line voltage and any adjustment factors pertinent to the geographical area of installation.
2. Line terminal surge arresters are required for 69 kV, 138 kV and 345 kV Transmission lines. The MCOV value for the arresters shall be 110% of nominal voltage minimum but may be higher if operating conditions or switching surge analysis indicates otherwise.
3. Electrical power equipment arresters such as those protecting power transformers, shunt reactors and shunt capacitor banks will follow the same minimum MCOV requirements as the Transmission line surge arresters in Item 2. The MCOV level must also coordinate with the BIL of the shunt equipment which it protects. The protective margin between the arrester and the equipment BIL is 17% minimum.
4. Surge arrester energy absorption levels of standard arresters are sufficient unless switching surge studies indicate otherwise.

**C.2.7 Voltage And Power Factor Control**

**C.2.7.1 Generator Requirements**

1. The Generation Facility shall not cause excessive voltage excursions. The Generation Facility operator shall operate its plant in such manner that the voltage levels on the Transmission system are in the same range as if the plant was not connected to the Transmission system. The Generator Facility owner shall provide an automatic method of disconnecting its plant Transmission system to protect against excessive voltage excursions.
2. The plant shall not cause excessive voltage flicker on the Transmission 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.
3. The operating frequency of the plant shall not deviate from the frequency of the Transmission system. Plant under-frequency relays shall be set the same as TNMP's under-frequency relays, so that the plant will not separate from the Transmission system during under-frequency conditions until all of TNMP's under-frequency load shedding equipment has operated.
4. The plant shall not introduce excessive distortion of the Transmission system waveforms; voltage and current; telephone interference; or carrier interference at the point of interconnection. IEEE Standard 519 shall be used as a guide.
5. The plant shall be disconnected from the Transmission system on occurrence of an outage or fault on the Transmission interconnect facilities serving the plant radially. The Generation Facility owner is responsible for the electrical stability of its plant and providing adequate protective relaying so that critical fault clearing times are met.
6. In accordance with ERCOT requirements, the power factor of the plant will be +/- 0.95. For synchronous generators, the generator voltage-var schedule, voltage regulator, and transformer ratio settings will be jointly determined by TNMP and Generator to ensure proper coordination of voltages and regulator action. In cases where starting or load changes on induction generators will have an adverse impact on the Transmission system voltage, TNMP is to be consulted on techniques required to bring voltage changes to acceptable levels.
7. The plant's interconnected generator excitation system shall conform to any applicable criteria specified in American National Standards Institute Standard C50.13-2014. The Generation Facility owner shall install and operate a power system stabilizer for the generator's excitation system, in accordance with ERCOT Requirements.

**C.2.7.2 End User Requirements**

1. End-User entities are required to maintain at least 97% lagging power factor at distribution level delivery points and at least 95% lagging power factor at Transmission level delivery points.
2. End-User entities shall not cause excessive voltage flicker on the Transmission 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.
3. End-User entities shall not introduce excessive distortion of the Transmission system waveforms; voltage and current; telephone interference; or carrier interference at the point of interconnection. IEEE Standard 519 shall be used as a guide.
4. End-User entities shall be disconnected from the Transmission system on occurrence of an outage or fault on the Transmission interconnect facilities serving the End-User Facility radially. The End-User

entity is responsible for the electrical stability of its facility and providing adequate protective relaying so that critical fault clearing times are met.

### **C.2.8 Power Quality**

1. Neither party's facilities shall cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by ANSI Standard C84.1-2016, in accordance with IEEE Standard 519, or any applicable superseding electric industry standard. In the event of a conflict between ANSI Standard C84.1-2016, or any applicable superseding electric industry standard, ANSI Standard C84.1-2016, or the applicable superseding electric industry standard, shall control.
2. Voltage fluctuations may be noticeable as visual lighting variations (flicker) and can damage or disrupt the operation of electronic equipment. *IEEE Recommended Practices and Requirements for Harmonic Control in Electric Power Systems* (IEEE Standard 519-2014) provides definitions and limits on acceptable levels of voltage fluctuation. The Facility shall comply with the limits set by IEEE Standard 519-2014.
3. Harmonics can cause telecommunications interference and thermal heating in transformers and can disable solid-state equipment and create resonant over-voltages. In order to protect equipment from damage, harmonics must be managed and mitigated. The facility shall not cause voltage and current harmonics on the TNMP Transmission system that exceed the limits specified in IEEE Standard 519-2014. Harmonic distortion is defined as the ratio of the root mean square (rms) value of the harmonic to the rms value of the fundamental voltage or current. Single frequency and total harmonic distortion measurements may be conducted at the point of interconnection, facility, or other locations on the TNMP Transmission system to determine whether the facility is the source of excessive harmonics.
4. If the parties determine that such flicker or harmonic distortion described above in Items 1, 2, and 3 are caused by the facility and corrective actions taken by facility owner do not resolve the problem, TNMP shall notify facility owner of the continuing problem and may curtail, interrupt or reduce deliveries of electricity, or disconnect the facility, in accordance with Good Utility Practice until the problem is resolved in accordance with IEEE Standard 519-2014. The facility owner shall be responsible for all damages caused by or that result from flicker or harmonic distortion due to the facility operation.

### **C.2.9 Equipment Ratings**

1. The rating of a Transmission line is the current-carrying capability of the most limiting element in series between the breakers at its two end points. Unless otherwise limited by equipment installed at each of the Transmission line terminals such as breakers, current transformers (CT's), protective relays, switches, disconnects, wave traps, jumpers, or series compensation devices the rating of a Transmission line is the conductor rating. Where such equipment has a manufacturer's nameplate continuous current rating less than the conductor rating, or is configured to have a continuous current rating less than the conductor rating, that equipment's continuous rating shall determine the rating of the Transmission line as noted below. TNMP uses a MS Access database to record the most limiting ratings of Transmission and substation equipment.
2. Transformer ratings are calculated in accordance with ANSI/IEEE Standard C57.91 (2011 Loading Guide). The normal rating of a transformer is the manufacturer's highest continuous rating at 55°C

temperature rise. The emergency rating of a transformer is the manufacturer's highest continuous rating at 65°C temperature rise. TNMP Engineering does not recommend loading bulk power transformers above their nameplate rating due to the long lead times and expense required to replace them.

3. Circuit breakers are rated at 100% continuous current as per the manufacturers' nameplate rating. Interrupting ratings of existing breakers are determined on a case by case basis depending on the specific manufacturing information of the breaker. Interrupting ratings of newly installed breakers should be no less than 115% of the available fault current at the time of installation as determined by IEEE standards and equipment manufacture's data.
4. Current transformers are rated at 100% nameplate rating of the connected ratio unless determined to have additional thermal capability through manufacturer provided information or special study for an individual device.
5. Protective relays are rated according to any applicable phase overcurrent or phase step distance settings that can result in isolation of the circuit being protected during non-fault conditions.
6. Power line carrier wave-traps, switches, disconnects, series compensation devices, and other equipment should not be loaded above the manufacturers' nameplate rating.

#### **C.2.10 Synchronizing Facilities**

1. Consistent with ERCOT requirements and the parties' mutually acceptable procedures, the interconnecting entity is responsible for the proper synchronization of Generating Facilities to TNMP's Transmission system.
2. Generating Facility owners shall assume all responsibility and cost for properly synchronizing Generating Facilities for operation with the TNMP Transmission System. Synchronizing of generation will be coordinated with TNMP's System Operations Center and ERCOT.

#### **C.2.11 Maintenance Coordination**

1. The parties shall confer to coordinate the planning, scheduling, and performance of preventive and corrective maintenance on the interconnecting facilities.
2. TNMP may interrupt interconnection service or curtail the capacity of the interconnecting facility when necessary for routine maintenance, construction, and repairs on TNMP's Transmission System. TNMP will provide the interconnecting entity with five business day notice prior to such interruption. TNMP will restore the interconnecting facilities to service as quickly as possible in accordance with Good Utility Practice.
3. To the extent practicable, TNMP will schedule any testing, shutdown, or disconnection of the interconnecting facilities and other relevant facilities that would affect the ability of the interconnecting entity to remain connected to the TNMP Transmission system, to coincide with the interconnecting entities scheduled outages or, if not possible, during times acceptable to the interconnecting entity. TNMP will restore the interconnecting facilities to service as quickly as possible in accordance with Good Utility Practice.
4. Outages will be scheduled in accordance with ERCOT requirements.
5. In the event of an unplanned outage of a party's facility that adversely affects the other party's facilities, the party that owns or controls the facility that is out of service shall restore that facility to

service as soon as practical and to promptly notify the other party as to the expected duration of the unplanned outage and, to the extent known, the reason therefore.

6. Each party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified by an agreement. Each party shall be responsible for the safe installation, maintenance, repair, and condition of their respective lines and appurtenances on their respective sides of the point of change of ownership.

### **C.2.12 Operational Issues**

1. **General.** With respect to its performance under an agreement, TNMP will comply with all applicable rules, manuals, standards, and guidelines of the Public Utility Commission of Texas, ERCOT, NERC, or any successor agency.
2. **Obligations of TNMP.** TNMP will operate and control the TNMP Transmission system, (a) in a safe and reliable manner, (b) in accordance with Good Utility Practice, and (c) in accordance with the terms and conditions of an agreement. In the event of any conflict between the terms and conditions of an agreement and applicable planning, operational, and/or reliability criteria, protocols, and directives of ERCOT and NERC, the applicable planning, operational, and/or reliability criteria, protocols, and directives of ERCOT and NERC shall govern.
3. **Obligations of the Interconnecting Entity.**
  - a. **Synchronization.** Generation Facility entities shall assume all responsibility and cost for properly synchronizing Generation Facilities for operation with the TNMP Transmission system. Synchronizing of generation will be coordinated with TNMP's System Operations Center and ERCOT.
  - b. **Operation and Control.** The interconnecting entity shall operate and control the interconnecting facility (a) in a safe and reliable manner, (b) in accordance with Good Utility Practice, and (c) in accordance with the terms and conditions of the respective interconnection agreement. In the event of any conflict between the terms and conditions of the respective interconnection agreement and applicable planning, operational, and/or reliability criteria, protocols, and directives of ERCOT and NERC, the applicable planning, operational, and/or reliability criteria, protocols, and directives of ERCOT and NERC shall govern.
4. **Switching and Tagging Procedures.**
  - a. Generation Facility and End-User Facility entities shall abide by TNMP's switching and tagging rules as TNMP may modify them from time to time with respect to activities at the interconnecting facilities. TNMP will notify Generation Facility and End-User Facility entities in advance of any changes in TNMP's switching and tagging rules. Generation Facility and End-User Facility entities shall ensure their personnel are trained and knowledgeable regarding TNMP's switching and tagging rules and grounding and isolation procedures.
  - b. TNMP System Operations personnel will coordinate with adjacent Transmission owner operating personnel to ensure appropriate tagging is accomplished for switching associated with Tie-Lines and Transmission Interconnection Facilities.



- c. The interconnecting entity acknowledges that following an electric disturbance, certain equipment at the interconnecting facility or on the TNMP Transmission system may reclose in accordance with Good Utility Practice. The interconnecting entity shall have sole responsibility for protecting the interconnecting facility and related equipment from any damage resulting from such re-closure.
- d. If, for any reason, a Generation facility is disconnected from the TNMP Transmission system (by electric disturbance, line switching, or otherwise), TNMP will cause the switching device interconnecting the Generation facility to become and remain open and not reclose until TNMP approves the re-closure.

### **C.2.13 Inspection Requirements For Existing or New Facilities**

1. Transmission elements (e.g. lines, line rights-of-way, circuit breakers, control and protection equipment, metering, and telecommunications) that are a part of the proposed connection and could affect the reliability of the TNMP Transmission system shall be inspected and maintained in conformance with regional standards.
2. Each party shall perform routine inspection and testing of its facilities and equipment, including secondary low voltage control systems, in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the facility with the TNMP's Transmission system in a safe and reliable manner.
3. Each party shall, at its own expense, have the right to observe the testing of any of the other party's facilities and equipment whose performance may reasonably be expected to affect the reliability of the observing party's facilities and equipment. Each party shall notify the other party in advance of its performance of tests of its facilities and equipment, and the other party may have a representative attend and be present during such testing.
4. If a party observes any deficiencies or defects on, or becomes aware of a lack of scheduled maintenance and testing with respect to, the other party's facilities and equipment that might reasonably be expected to adversely affect the observing party's facilities and equipment, the observing party shall provide notice to the other party that is prompt under the circumstance, and the other party shall make any corrections required in accordance with Good Utility Practice.

### **C.2.14 Normal & Emergency Communications/Procedures**

1. Complete, precise, and timely communication is an essential element for maintaining reliability and security of a power system. Under normal operating conditions, the major link of communication with various interconnecting facilities shall be by telephone lines. TNMP and its interconnecting entities shall maintain communications regarding key matters which shall include, but not be limited to, system paralleling or separation, scheduled or unscheduled shutdowns, equipment clearances, periodic load reports, maintenance schedules, tagging of interconnection interrupting devices, meter tests, relay tests, billing, and other routine communication. In case of emergency or abnormal operating conditions, various communication channels may be used. Emergency telephone numbers should be agreed upon by both parties prior to the actual connect date. In case of general widespread area announcements, TNMP may also use public announcements through radio and television stations.

2. At the interconnecting entity's expense, the interconnecting entity shall maintain satisfactory operating communications with TNMP's system operator, as designated by TNMP. The interconnecting entity shall provide standard voice line, dedicated voice line and facsimile communications at its facility control room through use of the public telephone system. The interconnecting entity shall also provide the dedicated data circuit(s) necessary to provide necessary interconnecting facility data to TNMP. The data circuit(s) shall extend from the interconnecting facility to a location(s) specified by TNMP. Any required maintenance of such communications equipment shall be performed at the interconnecting entity's expense, but may be performed by the interconnecting entity or by TNMP.

## **D Procedural Considerations**

### **D.1 Procedures For Coordinated Studies of New or Materially Modified Interconnections**

#### **D.1.1 Generation Facilities**

TNMP follows the ERCOT *Generation Resource Interconnection or Change Request* procedure as documented in Section 5 of the ERCOT Planning Guide for appropriately processing requests for, and sufficiently coordinating studies for, new or materially modified interconnections. An overview of the ERCOT *Generation Resource Interconnection or Change Request* procedure is as follows:

1. The IE seeking to interconnect a new Generation Facility or Materially Modify an existing Generation Facility submits an application to ERCOT. The application includes, among other requirements, all initial data inputs necessary to study the proposed Generation Facility interconnection or Material Modification to an existing Generation Facility.
2. ERCOT conducts a screening study on the proposed Generation Facility interconnection or Material Modification to the Generation Facility. ERCOT shares the results of the screening study with the IE.
3. Based on the results of the screening study, the IE makes a decision to either proceed or not proceed with the FIS. If the IE decides to proceed with the FIS, ERCOT assigns the FIS to the appropriate Transmission provider.
4. The assigned Transmission provider conducts the FIS, which generally involves the following coordination activities for each study component of the FIS:
  - a. The Transmission provider coordinates with the IE and any affected adjacent Transmission provider to conduct the study component of the proposed Generation Facility interconnection or Material Modification to an existing Generation Facility.
  - b. Once the study component is complete, the Transmission provider coordinates the study component results with all other Transmission providers within the ERCOT Interconnection by providing the study report via an online ERCOT portal for review and comment.
  - c. The Transmission provider revises the study component as needed to incorporate any comments received from other Transmission providers and/or ERCOT.

The Transmission provider repeats the above coordination activities for each of the FIS study components, which includes the steady-state study, short-circuit study, dynamic stability study, and facility study.

#### **D.1.2 Transmission Facilities**

TNMP adheres to the following ERCOT processes for coordinating studies of new and Materially Modified Transmission Facilities:

1. The ERCOT Regional Planning Group project review process described in Section 3.1.2 of the ERCOT Planning Guide and further detailed in Section 3.11.4 of the ERCOT Nodal Protocols.

2. The ERCOT Transmission Project Information Tracking process described in Section 6.4 of the ERCOT Planning Guide.

### **D.1.3 End-User Facilities**

TNMP coordinates with the developers and owners of End-User Facilities through its internal process for studying Transmission system impacts of new and Materially Modified End-User Facilities. Such process involves execution of a study agreement, collection of the necessary electrical system data to conduct the study, and communication between TNMP and the developer/owner of the End-User Facility at key milestones during the study process.

TNMP also coordinates with neighboring Transmission providers as needed during the End-User Facility study process when the study results indicate there to be impacts to the Transmission systems of neighboring Transmission providers. Such coordination process is a straight-forward approach of contacting the Transmission Planning department of all affected Transmission providers, clearly describing and defining the observed impacts, and coordinating with the neighboring Transmission providers as needed on short-term and long-term solutions.

## **D.2 Procedures For Notifying Those Responsible For The Reliability of Affected Systems of New or Materially Modified Existing Interconnections**

### **D.2.1 Generation Facilities**

1. Once a new or materially modified existing Generation Facility meets the requirements documented in Section 6.9(1) of the ERCOT Planning Guide, ERCOT registers the project in ERCOT's Generator Interconnection Status report, which is posted on the ERCOT secure Market Information System. Information included in this posting, among other information, is the location of the requested point of interconnection, size of the project, and fuel source.
2. TNMP submits a Network Model Change Request to ERCOT which prescribes the topology, rating information, and switching device information associated with TNMP-owned equipment within the new or Materially Modified existing interconnection.
3. Pursuant to Section 6.9(2) of the ERCOT Planning Guide, the IE finalizes its data submittal for the Generation Facility and generator owner portion of the new or Materially Modified existing interconnection through the ERCOT's resource registration process, which ultimately results in ERCOT adding the Generation Facility (for new interconnections) or modifying the Generation Facility (for Materially Modified existing interconnections) within ERCOT Network Operations Model.
4. Pursuant to Section 6.9(3) of the ERCOT Planning Guide, ERCOT notifies the Steady State Working Group, System Protection Working Group, and Dynamics Working Group that the new or Materially Modified Generation Facility will be appearing in the planning models.

**D.2.2 Transmission Facilities**

1. TNMP and the interconnecting Transmission owner(s) initially coordinate by performing a study to determine the feasibility of the new or Materially Modified existing Transmission Interconnection and all required upgrades.
2. If the new or Materially Modified existing Transmission Interconnection meets the criteria documented in Section 3.11.4.3 of the ERCOT Nodal Protocols, the study will be reviewed by the ERCOT Regional Planning Group.
3. TNMP and the interconnecting Transmission owner(s) further coordinate by developing and executing an interconnection agreement for a new Transmission Interconnection or amending an existing interconnection agreement for a Materially Modified existing Transmission Interconnection.
4. TNMP submits a Network Model Change Request to ERCOT which prescribes the topology, rating information, and switching device information associated with TNMP-owned equipment within the new or Materially Modified existing Transmission Interconnection. By extension, the new or Materially Modified existing Transmission Interconnection will be included in the ERCOT planning models in the appropriate years.

**D.2.3 End-User Facilities**

1. If the planning study for a new or Materially Modified existing End-User Facility interconnection described in Section C.1.3.2 indicates planning criteria violations on the system of one or more adjacent Transmission owners, TNMP notifies transmission planning staff of the affected Transmission owner(s) and coordinates as needed to assist the affected Transmission owner(s) with evaluation of the planning criteria violations.
2. After TNMP becomes obligated to construct a new interconnection or modify an existing interconnection for a new or Materially Modified existing End-User Facility through an interconnection agreement, TNMP submits a Network Model Change Request to ERCOT which prescribes the topology, rating information, and switching device information associated with both the interconnection and the new or Materially Modified existing End-User Facility. By extension, both the interconnection and the new or Materially Modified existing End-User Facility will be included in the ERCOT planning models in the appropriate years.

### **D.3 Procedures for Confirming New or Materially Modified Transmission Facilities are within ERCOT's Metered Boundaries**

At two stages during the process of establishing a new Transmission Facility interconnection or Materially Modifying an existing Transmission Facility interconnection with a requesting entity, TNMP conducts confirmations to help ensure the interconnecting entity has made appropriate provisions with ERCOT to operate within its metered boundaries, as follows:

1. TNMP will commence planning studies for proposed new or Materially Modified Transmission Facility interconnections only if the requesting entity is registered with ERCOT as a Transmission Service Provider. Before TNMP initiates planning studies for proposed new or Materially Modified Transmission Facility interconnections as described in Section C.1.2.2, TNMP transmission planning personnel confirm the requesting entity is registered with ERCOT as a Transmission Service Provider by referencing ERCOT's Transmission Service Provider roster and/or by contacting TNMP's ERCOT client services representative.
2. TNMP will energize new or Materially Modified Transmission Facility interconnections only if the requesting entity has modeled its associated Transmission Interconnection Facilities within the ERCOT Network Operations Model. Before TNMP energizes the new or Materially Modified Transmission Facility, TNMP system operations personnel confirm the requesting entity-owned Transmission Interconnection Facilities are modeled in the ERCOT Network Operations Model by referencing the appropriate Network Operations Model version and/or by requesting Network Operations Model Change Request information from the requesting entity.

**E Reference Standards**

ERCOT Protocols, Operating Guide, Planning Guide, and other ERCOT binding documents

Public Utility Commission of Texas Substantive Rules

IEEE1547 *Standard for Interconnecting Distributed Resources with Electric Power Systems (including use of IEEE 1547.1 testing protocols to establish conformity)*

UL 1741 *Inverters, Converters, and Controllers and Interconnection System Equipment for Use with Distributed Energy Resources*

NESC C2 - *National Electrical Safety Code*

NFPA 70 (2020), *National Electrical Code*

IEEE Std C37.90.1-2012, *IEEE Standard for Surge Withstand Capability (SWC) Tests for Relays And Relay Systems Associated With Electric Power Apparatus*

IEEE Std C37.90.2 -2004 (R2010), *IEEE Standard Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers*

IEEE Std C37.108-2002, *IEEE Guide for the Protection of Network Transformers*

IEEE Std C57.12.44-2014, *IEEE Standard Requirements for Secondary Network Protectors*

IEEE Std C62.41.2-2002, *IEEE Recommended Practice on Characterization of Surges in Low Voltage (1000V and Less) AC Power Circuits*

IEEE Std C62.45-2002 (R2008), *IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits*

ANSI/IEEE Std 80 - *Guide for Safety in AC Substation Grounding*

IEEE Std 81 - *Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System*

ANSI C84.1-2016 *Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)*

IEEE Std 100-2000, *IEEE Standard Dictionary of Electrical and Electronic Terms*

NEMA MG 1-2016, *Motors and Generators*

IEEE Std 367 - *Recommended Practice for Determining the Electric Power Station Ground Potential Rise and Induced Voltage from a Power Fault*

IEEE - 487 - *Electrical Protection of Communications Facilities Serving Electric Supply Locations -- General Considerations*

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*IEEE Std 519-2014, IEEE Recommended Practice and Requirements for Harmonic Control in Electrical Power Systems*

*IEEE - 837 - Standard for Qualifying Permanent Connections Used in Substation Grounding*



## TNMP

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**F Revision History**

Revision Number	Date	Description	By	Approval
0	12/21/07	Original document	R. McDaniel	R. McDaniel
1	9/1/10	Review and minor changes	A. Aars	R. McDaniel
2	12/12/12	Review, motor starting requirement addition, end-user facility requirement additions	Hudson / McDaniel	R. McDaniel
3	10/5/15	Revised for compliance with FAC-001-2, added a section for definitions and acronyms, general review, added a signed document review page for management implementation, various formatting adjustments.	Hudson Lona	Hudson
4	12/9/16	Annual review. Minor changes involving corrections to section references and formatting corrections.	Hudson Lona	Hudson
5	3/7/18	<ol style="list-style-type: none"> <li>1. Annual review.</li> <li>2. Revised Section B, <i>Definitions and Acronyms</i>, to eliminate confusion around the difference between a Transmission Facility and a Transmission Interconnection Facility.</li> <li>3. Replaced “transmission” with the defined term “Transmission” throughout the document.</li> <li>4. Revised Section C.2.4 to make a clear distinction between metering associated with Transmission points of interconnection and metering associated with Generation Facilities and End-User Facilities.</li> </ol>	Hudson Mansion	Hudson
6	12/21/18	Revised for compliance with FAC-001-3.	Hudson Lona	Hudson
7	3/29/20	<ol style="list-style-type: none"> <li>1. Annual review.</li> <li>2. Revised Section B, <i>Definitions and Acronyms</i>, to elaborate on Network Operations Model-</li> </ol>	Hudson	Hudson

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		<p>related definitions.</p> <ol style="list-style-type: none"> <li>3. Revised Section C.1.3.3, Design Requirements, to reflect TNMP's current practice of installing breakers on line taps for End-User Facilities and the potential need for UFLS and UVLS relaying.</li> <li>4. Revised standard references in Sections C.2.5, C.2.8, and E.</li> <li>5. Struck operating procedures language in Section C.2.12(5).</li> <li>6. Revised Section D.2.1 to provide clarity and reflect current practices in ERCOT for communicating finalization of the generation interconnection process.</li> <li>7. Revised Section D.2.2 to elaborate on current practices related to communicating establishment of and modifying Transmission Interconnections.</li> <li>8. Revised Section D.2.3 to elaborate on communicating establishment of and modifying End-User Facility interconnections.</li> <li>9. Other minor edits.</li> </ol>		
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**G Signed Document Review Page**

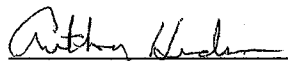
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**A Document Review**

- This document shall be reviewed annually for completeness
- Reviews shall be coordinated by the Director, System Operations and shall include all relevant personnel.
- References to "Annual" or "Annually" in this document shall mean once per calendar year unless otherwise noted.
- Revisions to this plan will be tracked using MS Word track changes feature and noted as applicable in the revision history table in Section F. If no changes are made, the annual review shall be reflected in the Revision History and the document will be re-executed by the Director, System Operations.
- This document shall be approved by the Director, System Operations by signing and dating below.
- A DocMinder notification shall be used as an internal control to ensure timely reviews are conducted of this document.
- The latest signed copy of this page can be found in Section G: Signed Document Review Page

  
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Director, System Operations

4/29/20  
Approval Date

4/29/20  
Implementation Date