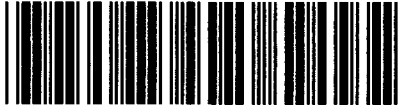


Control Number: 35077



Item Number: 309

Addendum StartPage: 0

**PROJECT NO. 35077**

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

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**July 5, 2012**

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# GENERATION INTERCONNECTION AGREEMENT

Among

NRG Energy Services LLC

and

City of Houston

and

CenterPoint Energy Houston Electric, LLC

for

Southeast Water Purification Plant  
Back-Up Generation Project  
Pasadena, Texas

May 2012

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## GENERATION INTERCONNECTION AGREEMENT

This Generation Interconnection Agreement is made and entered into between **CenterPoint Energy Houston Electric, LLC** ("Transmission Service Provider" or "TSP"), **City of Houston** ("Customer" or "CIF Owner"), a home rule municipality, and **NRG Energy Services, LLC** ("Generator" or "GIF Owner"), a limited liability company, hereinafter individually referred to as "Party," and collectively referred to as "Parties." 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. The Customer represents that it owns and operates the Substation including the Customer Interconnection Facility ("CIF"). The Generator represents that it owns and operates the Generator Interconnection Facility ("GIF"). Pursuant to the terms and conditions of this Agreement, Transmission Service Provider shall allow Generator's Plant (as defined in Exhibit A) to interconnect to the Substation, which is connected to the TSP System.

This Agreement applies only to the Parties' respective interconnection facilities as identified in Exhibit "C". Notwithstanding any contrary provision in this Agreement, including Exhibit "A" and other Exhibits to this Agreement, the Customer's and the Transmission Service Provider's respective rights and obligations with respect to the Customer Interconnection Facility and the Transmission Service Provider's interconnection facilities, or "TIF", as those terms are defined in Exhibit "A", shall be governed by the CenterPoint Energy Tariff for Retail Delivery Service.

This Agreement shall become effective on the date of the last signature executing this Agreement below, subject to Governmental Authority approval, if required, and shall continue in full force and effect until terminated in accordance with Exhibit "A".

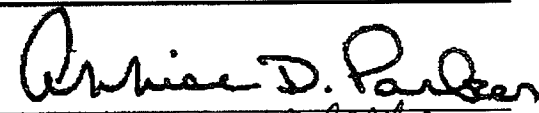
This Agreement will be subject to the following, all of which are incorporated herein:

- A. The "Terms and Conditions of the Generation Interconnection Agreement" attached hereto as Exhibit "A";
- B. The Electric Reliability Council of Texas, Inc. ("ERCOT") Requirements (unless expressly stated herein, where the ERCOT Requirements are in conflict with this Agreement, the ERCOT Requirements shall prevail);
- C. The Public Utility Commission of Texas ("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";
- F. The notice requirements attached hereto as Exhibit "D";
- G. The Security Arrangement Details attached hereto as Exhibit "E";

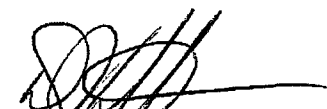
- H. The Transmission Service Provider's "Outage and Clearance Coordination Procedure", as it may be updated from time to time, the current version of which is attached hereto as Exhibit "F";
- I. Selected drawings related to the interconnection between CIF Owner, GIF Owner, and Transmission Service Provider's System, attached hereto as Exhibit "G".
- J. The Transmission Service Provider's "Specification for Customer 138 kV Substation Design", specification 007-231-14, as it may be updated from time to time, the current version of which, is attached hereto as Exhibit "H".

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.

CITY OF HOUSTON

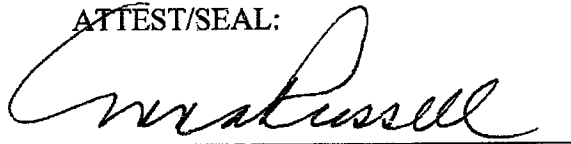
  
Mayor *Annise D. Parker*

NRG ENERGY SERVICES LLC

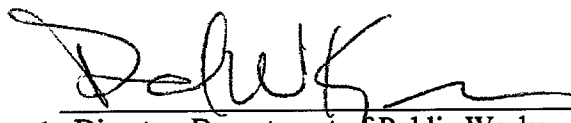
By:   
Title: *VP, NRG ENERGY SERVICES*  
Date: *6-1-12*

*REAF*


ATTEST/SEAL:

  
City Secretary

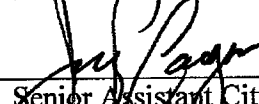
APPROVED:

  
Director, Department of Public Works and Engineering


CENTERPOINT ENERGY HOUSTON  
ELECTRIC, LLC

By:   
Title: *Division Vice President - HUPD*  
Date: *6/1/2012*

APPROVED AS TO FORM:

  
Senior Assistant City Attorney  
LD File No.: 063-1000084-007

COUNTERSIGNED BY:

  
Controller *RCS*  
DATE COUNTERSIGNED:  
*6-25-12*

**Exhibit "A"**  
**Terms and Conditions of the 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 "CCN" shall mean a Certificate of Convenience and Necessity issued by the PUCT.
- 1.2 "Customer Interconnection Facility" or "CIF" shall mean the Customer's 138 kV Substation known to the TSP as the "SOUTH" Substation connecting Customer's Southeast Water Purification Plant electrical facilities and the Plant to the TSP System.
- 1.3 "CIF Owner" shall mean the City of Houston, owner of the CIF.
- 1.4 "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.
- 1.5 "Director" shall mean Houston's Director of Public Works and Engineering or his or her designee.
- 1.6 "ERCOT" shall mean the Electric Reliability Council of Texas, Inc.
- 1.7 "ERCOT Requirements" means the ERCOT Protocols, Operating Guides, Generation Interconnection Procedures as well as any other documents adopted by 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.

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

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

1.10 “Generator” shall mean NRG Energy Services LLC, the owner and operator of the Plant from which power flows through the CIF to the TSP System.

1.11 “Generator Interconnect Facility” or “GIF” shall mean the interconnect facilities between the Plant and the Substation as described in Exhibit C.

1.12 “GIF Owner” shall mean the Generator.

1.13 “Good Utility Practice” shall have the meaning described in PUCT Rule 25.5(23) or its successor.

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

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

1.16 “ISO” shall mean the ERCOT Independent System Operator.

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



1.18 "Point of Customer Interconnection" shall mean the location(s) where the CIF connects to the TIF as negotiated and defined by the Parties and as shown on Exhibit "C" of this Agreement.

1.19 "Point of Generator Interconnection" shall mean the location(s) where the GIF connects to the CIF as negotiated and defined by the Parties and as shown on Exhibit "C" of this Agreement.

1.20 "PUCT" shall mean the Public Utility Commission of Texas.

1.21 "PUCT Rules" shall mean the Substantive Rules of the PUCT.

1.22 "Reasonable Efforts" shall mean the use of Good Utility Practice and the exercise of due diligence (pursuant to PUCT Rule 25.196(e)).

1.23 "Substation" shall mean the equipment owned and operated by the CIF Owner to allow electric power to flow from the TIF into the CIF Owner's equipment in the CIF Owner's water plant. The Substation is commonly referred to by TSP as the "SOUTH Substation."

1.24 "System Protection Equipment" shall mean those facilities located within the TIF and the CIF as described in Section 5.6 and Exhibit "C."

1.25 "System Security Study" shall have the meaning as described in PUCT Rule 25.198(f) or its successor.

1.26 "TCOS" shall mean the TSP's transmission cost of service as allowed by the applicable Governmental Authority.

1.27 "TIF" shall mean the TSP's interconnection facilities between the Substation and the TSP System as described in Exhibit "C" to this Agreement.

1.28 "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.

1.29 "TSP" shall mean the Transmission Service Provider.

1.30 "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 and Customer 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 and Customer if the Generator's Plant has not achieved Commercial Operation within one year after the scheduled Commercial Operation date reflected in Exhibit "B"; or

C. Any Party may terminate this Agreement in accordance with Section 9.6.

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 Parties' receipt of such notice of termination, that are the responsibility of the Generator under this Agreement. In the event of termination by any Party, all Parties shall use commercially reasonable efforts to mitigate the damages and charges that they may incur as a consequence of termination. The provisions of 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 Plant from the Substation at the Point of Generator Interconnection. Termination of

this Agreement shall not impact the TIF or Customer's ability to remain connected to Substation through TIF and to draw electric power from the TSP under the applicable tariff.

### **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 any CCN required for the construction of the TIF.

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

The Parties agree the TIF is already in place and is integral to the Substation.

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

5.1 Information Exchange. The Parties shall exchange information and mutually agree upon the design and compatibility of the GIF with the TIF. 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 and Customer 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 the TIF is 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 any Party makes equipment changes to the Plant, the GIF, the CIF, the TIF or the TSP System which it knows will affect the operation or performance of any other Party's interconnection facilities, the Party agrees to notify the other Parties, 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. 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. 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.

E. 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 Generator 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 Generator Interconnection shall be coordinated between the TSP, Customer, the ISO, and the Generator and will be conducted in accordance with ERCOT Requirements.

6.2 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.

6.3 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.

6.4 Switching and Clearance.

A. Any switching or clearances needed on the TIF or the CIF 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."

6.5 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.

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

6.7 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.

6.8 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 (if required): (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 Generator shall supplement its initial data submission 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 CIF 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. The Generator and TSP shall furnish to the other Party real-time and forecasted data as required by ERCOT Requirements. The Generator and TSP 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 contribution in aid of construction provisions of Section 8.1 of this Agreement.

8.3 Financial Security Arrangements. The Parties agree that the connection of the GIF is the responsibility of the Generator. Because the TIF and CIF are already in place and operating under a standard tariff, no Financial Security Arrangements are required.

## ARTICLE 9. MISCELLANEOUS

### 9.1 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.

9.2 No Other Services. This Agreement is applicable only to the interconnection of the Plant to the TSP System at the Point of Generator Interconnection and does not obligate any Party to provide, or entitle any 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 another 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.

9.3 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; except, as between Generator and Customer, for a certain Electric Reliability Service Agreement between Customer and Generator dated November 17, 2010 ("ERSA"). 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.

9.4 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.

9.5 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, terrorism, strike or other labor disturbance, sabotage, war, national emergency, or restraint by any Governmental Authority.

B. No Party shall be considered to be in Default (as hereinafter defined) with respect to any obligation hereunder, 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.

#### 9.6 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 Sections 9.6.B or 9.6.C, 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. An Event of Default as defined in the ERSA by either Generator or Customer shall also be a Default under this Agreement as between Generator and Customer, subject only to the cure periods, if any, contained in the ERSA; provided, that (notwithstanding Section 9.6 C below) Generator may not terminate this Agreement due to an Event of Default by Customer under the ERSA, and Customer may not terminate this Agreement due to an Event of Default by Generator under this ERSA, unless, in either case, such non-defaulting Party also properly terminates the ERSA pursuant to such Event of Default.

C. 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.

D. The provisions of this Section will survive termination of this Agreement.

9.7 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 demand the Customer disconnect the GIF from the CIF, 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.

9.8 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.

9.9 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 or Customer shall not constitute a

waiver of the Generator's or Customer's legal rights to obtain an interconnection from the TSP under a new interconnection agreement.

9.10 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.

9.11 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.

9.12 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.

9.13 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.

9.14 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.

9.15 Indemnification and Liability. The indemnification and liability provisions of the PUCT Rule 25.202(b)(2) or its successor shall govern this Agreement. In no event, shall the Parties be liable to each other for any attorney fees or court costs.

9.16 Consequential Damages. OTHER THAN THE LIQUIDATED DAMAGES HERETOFORE DESCRIBED, IN NO EVENT SHALL THE PARTIES 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.

9.17 Assignment. This Agreement may be assigned by any Party only with the written consent of the other; provided that any Party may assign this Agreement without the consent of the other Parties 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.

9.18 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.

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

9.20 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."

9.21 Confidentiality.

A. Subject to the exception in Section 9.21.B, any information that a Party claims is competitively sensitive, commercial or financial information under this Agreement ("Confidential Information") shall not be disclosed by any of the other Parties to any person not employed or retained by any of the other Parties, 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 any of the other Parties, such consent not to be unreasonably withheld; or (iv) necessary to fulfill its obligations under this Agreement or as a transmission service provider, including disclosing the Confidential Information to the ISO. The Party asserting confidentiality

shall notify the other Parties 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).

C. The Parties acknowledge that this Agreement is in the public domain and that any information provided to Customer is subject to the Texas Public Information Act, Texas Government Code §§ 552.001 et seq.

#### 9.23 Limit of Liability and Appropriation.

A. The Customer's duty to pay money under this Agreement is limited in its entirety by the provisions of this Section.

B. The Parties recognize that under Article II, Section 19 and 19a of the City of Houston's Charter, and Article XI, Section 5 of the Texas Constitution, Customer may not obligate itself by contract to pay more money than the amount the Houston City Council appropriates, and further recognize that the Houston City Council has not appropriated or allocated any funds as of the Countersignature Date for carrying out the purposes under this Agreement; and notwithstanding any other provision of this Agreement, that might otherwise be construed to the contrary, shall have no obligation to

expend any of Customer's funds except to the extent that the Houston City Council, at its sole discretion, appropriates such funds.

9.24 Sovereign Immunity. Nothing in this Agreement or any action taken by Customer in accordance with this Agreement shall be construed to waive or limit Customer's sovereign immunity.

## **Exhibit "B"**

### **Time Schedule**

- 1) With the execution of this agreement and the provision of security in accordance with the terms of this agreement, TSP is authorized to proceed with work required to accommodate the new generation at SOUTH substation.
- 2) Scheduled Generation Commercial Operation Date: April 1, 2012
- 3) Due to the nature of the subject of this Agreement, the Parties may mutually agree to change the location, dates and times of this Exhibit B. Customer's Director shall be authorized to negotiate and consent to such changes on behalf of Customer.

## **Exhibit "C"**

### **Interconnection Details**

- 1) Name: Southeast Water Purification Plant ("SEWP" or "Plant") at Customer's SOUTH Substation.
- 2) Interconnection Locations
  - A) Point of Customer Interconnection: The point at which TSP's transmission line phase conductors, associated insulators and static wires first contact the Customer's substation facilities (CIF) at the Customer's SOUTH Substation dead end structures located at 3100 Genoa-Red Bluff, Pasadena, Harris County, Texas.
  - B) Point of Generator Interconnection: The point at which Generator's bus bars connect to Customer's bus bars in Customer's 7.2 kV buss and Customer's 12.4kV buss.
- 3) Delivery Voltage:
  - A) TSP to Customer delivery is at 138 kV.
  - B) Customer to Generator delivery voltage is at 7.2 kV and 12.47kV.
- 4) Number and Size of Generating Units
  - A) Plant will be comprised of 10 each 500 kW diesel generators with a total net rating of 5 MW.
- 5) Type of Generating Unit

Description: Volvo TAD1641 diesel engines driving Marathon Electric Model 572RSL4027 generators rated at approximately 500 kW each.
- 6) Metering and Telemetry Equipment
  - A) TSP has provided and installed Revenue Settlement primary and check meters, current transformers and associated wiring required for measuring the electrical load and generation at SOUTH Substation. TSP will maintain the metering system's components in a manner consistent with ERCOT Requirements and the PUC Substantive Rules. The Parties agree the meters described in this paragraph are already installed to meter the Customer's electric consumption at the SOUTH Substation (ESIID 1008901000181520016100).
  - B) Additional conduits, if required, to the meter cans for RS485 communication circuits to Plant DCS will be provided by the Generator.
  - C) TSP will allow Generator to connect to TSP's meters through existing auxiliary connection points or devices. The Generator's connection to the TSP's meters will not interfere with TSP's meter's operation.
- 7) Customer Interconnection Facilities (the "CIF")
  - A) Generator will expand the electric facilities (the Customer Interconnection Facilities) at the SOUTH substation to accommodate the interconnection of the Plant.

- B) Customer will operate and maintain the electric interconnection facilities at the SOUTH substation, including, but not limited to, equipment for transformation to and from transmission voltage, protective devices, and associated foundations, the terminating structure(s), all relays necessary for protection, and the disconnect switch(s) and foundation(s) at the Point of Customer Interconnection. Note that TSP will perform periodic testing of certain CIF equipment if the equipment is installed for the protection of TSP transmission lines.
  - C) Customer shall own all protective relays, instrument transformers, instrumentation, and control equipment physically located on the Customer's side of the Point of Customer Interconnection, up to the Point of Generator Interconnection.
    - 1) Exception 1. TSP owns certain 138 kV instrument transformers used for TSP's metering purposes.
    - 2) Exception 2. Generator owns certain current transformers (CTs) installed in Customer's breakers and used for Generator's metering purposes.
  - D) Electrical design criteria of the CIF shall be in accordance with the version of TSP's "Specification for Customer 138 kV Substation Design" attached as EXHIBIT H in effect at the time the CIF was built, and updated from time to time as required by TSP's tariff.
- 8) TSP Interconnection Facilities (the "TIF")
- A) TSP's scope of work shall be limited to the installation of metering equipment to measure the load at the Point of Customer Interconnection and to make required changes, if any, to the automatic reclosing system at other substations associated with the TSP's transmission system and to set and test 138 kV zero-sequence over-voltage relays as a result of the operation of the Generator's facility in parallel with the TSP transmission system.
  - B) TSP owns and maintains the connection from TSP's equipment to the Customer's SOUTH Substation terminating structure and disconnecting device, including phase conductors, static conductors, tower fittings, suspension insulators, dead-end clamps and line conductor terminal fittings with National Electrical Manufacturers Association ("NEMA") standard four-hole flat pads for attachment to the first item of equipment or bus of the SOUTH Substation. TSP will also provide NEMA four-hole pads and associated hardware for connection to NEMA four-hole pads on the SOUTH Substation.
  - C) TSP shall calculate set points, set and test selected 138 kV line protection relays at the SOUTH Substation.
- 9) Generator Interconnection Facilities
- A) Generator will furnish, operate and maintain the generation facility and its generator interconnection facilities connected to the SOUTH Substation, including, but not limited to, all generators, equipment for transformation to interconnection voltage, protective devices, and other transformers and associated foundations, all relays necessary for the protection, synchronization and coordination of the generators, generator auxiliary equipment and the disconnect switch(s) at the Point of Generator Interconnection. Note that TSP will perform periodic testing of certain Generator equipment if the equipment is installed for the protection of TSP transmission lines.
  - B) Generator shall own all generators, transformers, breakers, switches protective relays, instrument transformers, instrumentation, control equipment, cables, conduits,



communications equipment and associated foundations physically located on the Generator's side of the Point of Generator Interconnection.

- C) Electrical design criteria of Plant's Generator Interconnection Facilities shall be in accordance with the TSP's "Specification for Customer 138 kV Substation Design" attached as Exhibit "H" and in particular, the section pertaining to "Generation".

#### 10) System Protection Equipment

- A) System protection equipment already exists at the SOUTH Substation.
- B) Any new protective relaying equipment will comply with TSP's "Specification for Customer 138 kV Substation Design" as attached as EXHIBIT "H".
- C) Generator shall design and install a time-overvoltage protective relay on each incoming transmission line position to detect 138 kV zero-sequence over-voltage and trip the respective transmission line 138 kV circuit breakers at the Substation or trip the generators to ensure the Generators' generators do not sustain a fault on the TSP's transmission system. TSP will provide the required time-overvoltage protective relay bill of materials for 138 kV zero-sequence over-voltage relaying schemes to ensure coordination with other transmission relaying. In addition, TSP will review the existing automatic reclosing schemes to determine if any changes are required. Generators' engineering documents shall be submitted for TSP comments, functional review, and compliance with TSP requirements. TSP will calculate the set points for the zero-sequence time-overvoltage protective relays and test the relays in the same manner as is presently done for existing equipment installed at the SOUTH substation for protection of TSP's transmission lines.

#### 11) Supplemental Terms and Conditions

- A) The following drawings are attached and made a part of this agreement as Exhibit "G" – Attached Drawings.
  - 1) CenterPoint Energy Basic One-Line Drawing of the SOUTH Substation
- B) Cost Responsibility:
  - 1) Notwithstanding the provisions of Exhibit "A", Section 8.1, the amount of the contribution in aid of construction, if any, which Generator may be required to make, shall be specified in Exhibit "E", Security Arrangement Details.
- C) Authorization to Proceed:
  - 1) Generator authorizes TSP to begin work.
- D) Clarifications to Exhibit "A"
  - 1) The Parties agree that at the time of executing this Agreement the references to the PUCT Rules contained within certain definitions set forth in Exhibit "A", "Article 1. Definitions" have the meanings ascribed to such terms as established in the current PUCT Rules. The Parties recognize that the PUCT Rules are amended from time to time by the Commission. The parties also acknowledge that ERCOT issues ERCOT Requirements in which terms are redefined from time to time. When the PUCT Rules or ERCOT Requirements are amended and terms defined in Exhibit "A", "Article 1. Definitions" are affected by such amendments; the Parties agree that such terms shall have the meanings as amended by the PUCT or ERCOT.
  - 2) There is no longer a definition for "System Security Study" in the PUCT Rules or in the ERCOT Requirements.

E) Miscellaneous

- 1) Each Party shall be solely responsible for keeping itself informed of, and understanding its respective responsibilities under, all applicable North American Electric Reliability Corporation ("NERC") Standards and ERCOT Requirements and all valid, applicable laws, rules, regulations and orders of, and tariffs approved by, duly constituted Governmental Authorities.
- 2) ERCOT Requirements.
  - (a) Generator is responsible for meeting ERCOT Requirements to the extent they apply to Generator's Plant.

## Exhibit "D"

### Notice and EFT Information of the Generation Interconnection Agreement

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

<p><b>If to <i>NRG Energy Services, LLC</i></b></p> <p>Southeast Reliability Service Project  Attn: Real Time Operations  Address 1201 Fannin  City, State, Zip Houston, TX 7702  24 Hour Telephone (713) 537-3700 or (713) 537-3701  Operational/Confirmation Fax (713) 537-3750  E-mail</p>	<p><b>If to <i>CenterPoint Energy Houston Electric, LLC</i></b></p> <p>CenterPoint Energy Houston Electric, LLC  Attn: Real Time Operations  P.O. Box 1700  Houston, Texas 77251  24 Hour Telephone 713-207-2393  Operational/Confirmation Fax 713-207-2349</p>
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(b) Notices of an ADMINISTRATIVE nature:

<p><b>If <i>NRG Energy Services, LLC</i></b></p> <p>Company Name: Southeast Reliability Service Project  c/o NRG Energy Services, LLC  Attn: David Goza  Address 1201 Fannin  City, State, Zip Houston, TX 77002  Phone: 713-537-3217  Fax: 713-537-4290  E-mail david.goza@nrgenergy.com</p>	<p><b>If to <i>CenterPoint Energy Houston Electric, LLC</i></b></p> <p>CenterPoint Energy Houston Electric, LLC  Manager, Transmission Accounts  P.O. Box 1700  Houston, TX 77251  Phone 713-207-2785  Fax: 713-207-9122  E-mail: don.chandler@CenterPointEnergy.com</p>
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(c) Notice for STATEMENT AND BILLING purposes:

	<p><b>If to <i>CenterPoint Energy Houston Electric, LLC</i></b></p> <p>Accounts Payable  P.O. Box 1374  Houston, TX 77251-1374  Phone 713-207-7888  Fax: 713-207-9986  E-mail: <u>AP.invoices@centerpointenergy.com</u></p>
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(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 *City of Houston*

City of Houston  
Public Works & Engineering Department  
Attn: **Yvonne Forrest**  
Address: 611 Walker  
City, State, Zip: Houston, TX 77002  
24 Hour Telephone (713) 504-7294  
Operational/Confirmation Fax (832) 395-2865  
E-mail: [Yvonne.Forrest@houstontx.gov](mailto:Yvonne.Forrest@houstontx.gov)

(b) Notices of an ADMINISTRATIVE nature:

If to *City of Houston*

City of Houston  
Public Works & Engineering Department  
Attn: **Jim McCoy**  
Address: 611 Walker  
City, State, Zip: Houston, TX 77002  
Phone: (832) 395-2467  
Fax: (832) 395-2483  
E-mail [jim.mccoy@houstontx.gov](mailto:jim.mccoy@houstontx.gov)

(c) Notice for STATEMENT AND BILLING purposes:

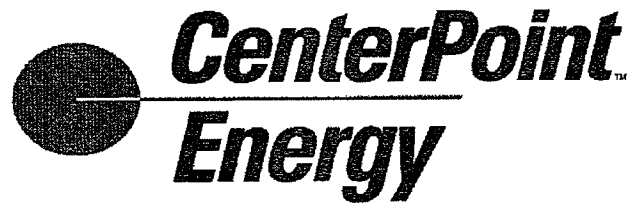
If to *City of Houston*

City of Houston  
Public Works & Engineering Department  
Attn: **Jim McCoy**  
Address: 611 Walker  
City, State, Zip: Houston, TX 77002  
Phone: (832) 395-2467  
Fax: (832) 395-2483  
E-mail [jim.mccoy@houstontx.gov](mailto:jim.mccoy@houstontx.gov)

**Exhibit "E"**  
**Security Arrangement Details**

**Security is not required for this interconnection.**

**Exhibit "F"**  
**Outage and Clearance Coordination Procedure**



# Transmission & Substation Outage And Clearance Coordination Procedures

Real Time Operations Department

Revised April 18, 2012

# Telephone Numbers

## Real Time Operations Department (RTO)

**RTO HOTLINE** 281-894-1625 (24 hours)

RTO System Controller 281-894-0491 (24 hours)

**Outage Schedulers:** 713-207-2196

Mike Nunn (Outage Scheduler) 713-207-2714  
[michael.nunn@centerpointenergy.com](mailto:michael.nunn@centerpointenergy.com)

Larry Pilcik (Outage Scheduler) 713-207-2730  
[larry.pilcik@centerpointenergy.com](mailto:larry.pilcik@centerpointenergy.com)

RTO Outage Schedulers (FAX) 713-207-2571

RTO System Coordinators:

Steve McNeill 713-207-2497  
[steve.mcneill@centerpointenergy.com](mailto:steve.mcneill@centerpointenergy.com)

Michael Hall 713-207-2766  
[michael.hall@centerpointenergy.com](mailto:michael.hall@centerpointenergy.com)

## Metering Department

High Voltage Metering 713-945-6689

Metering Engineering 713-207-7507

## Transmission Accounts Representatives

Gary Dwyer 713-207-3621  
Rick Ferrell 713-207-3512  
Henry French 713-207-2789  
Gary Shadwell 713-207-3538



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## **1 Introduction**

### **1.1 Applicability**

- 1.1.1 These procedures apply to entities ("Customers") who own high voltage transmission and/or generation facilities interconnected to CenterPoint Energy's 69kV, 138kV, or 345kV transmission system. Customer, as used in this document, includes Customer's authorized contractors or agents. The Customer is responsible for ensuring that the provisions in this document are applied to facilities that may be owned by others and that are interconnected to the Customer's facility at the same voltage at which the Customer's facility is interconnected to CenterPoint Energy's (CNP) transmission system. CNP, as used in this document, refers to CenterPoint Energy.

### **1.2 Purpose**

- 1.2.1 The purpose of this document is to facilitate the coordinated operation, outage coordination, maintenance, design and modification of Customer high voltage transmission and or generation facilities with CNP facilities.

### **1.3 Procedure Copies**

- 1.3.1 The Customer will keep copies of these procedures in applicable Customer substation control houses and plant operating centers. These procedures, including forms, may be reproduced.

### **1.4 Ownership or Name Changes**

- 1.4.1 The Customer will inform CNP of any change in ownership or name of their interconnected facilities or facilities owned by others that are interconnected to their facilities.

### **1.5 Procedure Conflicts**

- 1.5.1 Any conflicts between these procedures and the Customer's procedures should be thoroughly discussed with appropriate CNP representatives and resolved before beginning any work.

### **1.6 Maintenance Responsibility**

- 1.6.1 The Customer is responsible for the operation and periodic preventive maintenance of all substation facilities owned by the Customer except for equipment designated by CNP to be maintained by CNP. The Customer will not perform preventive maintenance on equipment maintained by CNP.

## 1.7 Equipment Changes

- 1.7.1 The Customer is responsible for providing all equipment, in accordance with CNP specifications, whenever changes in CNP transmission system, including monitoring and protection devices, require changes in the Customer's interconnected facilities to maintain compatibility.
- 1.7.2 The Customer will provide sufficient notice to CNP of any proposed changes to their facilities as specified in Section 9. This notification will include providing necessary details so that CNP can provide comments based upon a general, functional, and compliance review. The Customer will not procure any equipment or materials or begin any work until all CNP comments are incorporated or resolved.

## 1.8 Generation Installation and Operation

- 1.8.1 Customers desiring to connect generation that will operate in parallel to CNP's transmission system shall file an application with the Electric Reliability Council of Texas (ERCOT) requesting interconnection in accordance with ERCOT's Generation Interconnection Procedure.
- 1.8.2 The Customer's generation facility must be operated in accordance with the ERCOT Protocols and Operating Guides available at:
- 1.8.3 <http://www.ercot.com/mktrules/nprotocols/current>  
<http://www.ercot.com/mktrules/guides/noperating/cur>

## 1.9 Power Factor

- 1.9.1 The Customer is responsible for providing suitable apparatus to maintain power factor consistent with the requirements of CNP's Tariff for Retail Delivery Service.

## 1.10 Voltage Fluctuations

- 1.10.1 The Customer is responsible for providing suitable apparatus to mitigate voltage fluctuations to reasonable limits should the Customer's equipment cause voltage fluctuations that interfere with CNP's transmission system.

## 1.11 Emergency Response

- 1.11.1 In an emergency, the Customer will switch substation equipment, reduce MW output, change reactive output, or perform other measures as directed by ERCOT or CNP's Real Time Operations Division ("RTO"), to help alleviate the emergency.
- 1.11.2 CNP may interrupt transmission service to and deliveries from the Customer in the event of an emergency.

## **2 CNP Access to Customer Facilities**

### **2.1 Authorized Representative of CNP**

- 2.1.1 An authorized representative of CNP shall have access to the Customer's premises for the purpose of inspecting CNP's wiring and apparatus, repairing, erecting, removing, or replacing CNP owned equipment, reading CNP meters, and for all other purposes related to the interconnection including switching CNP equipment. The Customer will provide necessary equipment outages to allow CNP to perform periodic maintenance on equipment that CNP owns or to repair or replace equipment that CNP owns.

## **3 Communications with CNP**

### **3.1 Real Time Operations Department**

- 3.1.1 CNP's Real Time Operations Department ("RTO") is responsible for operating CNP's transmission system and coordinating the operation of interconnected high voltage facilities. RTO provides routine and emergency switching instructions, issues clearances, and dispatches CNP personnel in response to electrical outages and problems. The Customer will schedule planned outages with RTO and obtain from RTO switching instructions for any equipment at the customer substation that is directly interconnected with CNP's transmission system. Switching in the customers facilities that are remote to the customer's substation that is directly interconnected with CNP's transmission system does not need to be scheduled. CNP will notify customers one or more days in advance if switching is required in a customer substation for planned transmission line outages or if a customer substation will be placed in a single-ended condition.

### **3.2 Scheduling Transmission Equipment Outages**

- 3.2.1 CenterPoint Energy's substation equipment outage scheduling and reporting requirements have been developed to support ERCOT Protocol requirements for scheduling outages on circuit breakers, bus sections, transmission lines and transformers which have an operating voltage of 60kV and higher and to support requirements for scheduling outages of ERCOT Polled Settlement (EPS) metering equipment.
- 3.2.2 The Customer will contact the RTO Outage Scheduler as shown in Table 1 at the end of this section to coordinate outages in the substation that is directly interconnected with CNP's transmission system. Requests are considered in the order they are received.
- 3.2.3 Switching Orders, Clearances - The Customer will follow switching instructions, provided by the RTO System Controller, prior to initiating any switching to remove equipment from service or return equipment to service in the Customer's facilities. The Customer will request a clearance from the RTO System Controller when required. A "Switching Order" form and a

"Transmission Switching Check List" form are included in this document. The RTO System Controller can be contacted at 281-894-0491.

- 3.2.4 **Unplanned Outages, Emergencies** - The Customer will contact the RTO System Controller as soon as possible whenever any unplanned tripping of any circuit breaker operating at a voltage of 60kV and higher occurs. A "Forced Outage Check List" form is included in this document. In the event of an unplanned generation outage, the Customer or his designated representative will advise CNP's RTO System Controller as soon as possible. In emergency situations, switching may be performed by a qualified person, authorized by the Customer, based upon switching instructions provided by the RTO System Controller. An "Emergency Switching Check List" form is included in this document. The RTO System Controller can be contacted at 281-894-0491, or at the RTO HOTLINE 281-894-1625.
- 3.2.5 **ERCOT Approvals** - The RTO System Scheduler will coordinate a review and notify the Customer whether or not the outage can be scheduled for the desired day. Transmission line outages and the energization of new equipment require the approval of ERCOT. The Customer will notify the RTO System Scheduler as soon as possible if an outage is canceled prior to the outage date. The Customer will immediately notify the RTO System Controller if an outage is canceled on the day of the outage. CNP will endeavor to notify the Customer as soon as possible when it is deemed necessary to cancel an outage.
- 3.2.6 **Customer Substation Evacuations** – During emergencies requiring evacuation of a customer's facility, the customer shall contact RTO prior to the evacuation and provide information regarding the operational status of their substation and associated support facilities (i.e. substation station service power, battery & battery charger, ability for CenterPoint Energy to access substation, etc). Customer substations are an integral part of the interconnected transmission system and disabling them has an impact on the electrical grid.

### 3.3 Transmission Accounts Division

- 3.3.1 CNP's Transmission Accounts division is responsible for coordinating the Customer's service needs within CNP. Transmission Accounts representatives will endeavor to inform Customer's of long range planned switching and projects which may affect the Customer's facility
- 3.3.2 The Customer will notify the Transmission Accounts representative as specified in Section 9 when equipment additions or removals are planned or when high voltage equipment 60kV and higher or associated equipment requires modification or replacement. The Customer will contact a Transmission Accounts representative to request current CNP specifications and applicable bills of material for substation equipment additions and replacement.
- 3.3.3 Transmission Accounts representatives may be contacted for any questions concerning the operation of the Customer's substation. The Transmission Accounts representatives are listed on Page 1 of this document.

### 3.4 Substation and Equipment Identification

- 3.4.1 CNP assigns a Substation name (Substation ID) of six characters or less, to identify the Customer's substation facility. The Substation ID is also referred to as the six character mnemonic name in which some characters may be blank. CNP will mount signs with the Substation ID on a substation control house door and on a substation entrance gate at the Customer's facility.
- 3.4.2 The Customer's high voltage circuit breakers switches, transformers, and certain low side equipment will be identified with CNP's assigned numbers. CNP will develop a substation basic one-line diagram that includes these assigned numbers. CNP or the Customer will mark these numbers on the substation equipment. CNP may stencil identification numbers on substation equipment and mount signs, labels, drawings, telephone numbers, and instructions on the Customer's facilities.
- 3.4.3 The Customer will use CNP's assigned Substation name, or Substation ID, and equipment identification numbers in discussions with the RTO System Controller and the RTO System Scheduler.

### 3.5 Telephone Lines and Data Communication

- 3.5.1 The Customer will maintain a telephone in the substation control house connected to an outside telephone line independent from the Customer's telephone system.
- 3.5.2 The Customer will maintain data acquisition equipment to provide real-time data to RTO when it has been installed at electric generating facilities.
- 3.5.3 CNP will maintain a communication circuit for real time data if CNP Supervisory Control and Data Acquisition (SCADA) equipment is installed at the Customer's facility.

### 3.6 Alarm Response

- 3.6.1 CNP will respond to alarms for communication equipment installed to protect CNP transmission circuits.
- 3.6.2 The Customer should report substation alarms to the RTO System Controller and respond to alarms pertaining to their equipment. A "Loss of DC" alarm should be immediately reported to the RTO System Controller and investigated by the customer.

## Transmission Control / Real Time Operations Outage Scheduling, Metering and Forced Outage Requirements

Per ERCOT and CenterPoint Energy outage reporting requirements, planned outages on circuit breakers, transmission lines and autotransformers rated 60kV and higher must be submitted to the ERCOT Outage Coordinators by the CenterPoint Energy Real Time Operations Outage Coordinator.

Per ERCOT Protocols, planned outages on ERCOT Polled Settlement (EPS) meters and/or the equipment to which they are connected require a 5 day minimum notice. A 10 calendar-day minimum notice is required for any modifications to approved EPS equipment.

**Table 1 Planned Outages**

Equipment Being Requested	Minimum Advance Notice	Contact
69kV & 138kV lines, single load transformers, individual breakers and bus outages of no more than one day in duration.	No later than 1200 hours Wednesday two weeks before the Planned Outage is to take place.	Outage Scheduler @ 713-207-2196 or 713-207-2714
All transmission line outages and equipment outages, including busses, of up to four contiguous days duration (daily or continuous outages).	35 Calendar Days notice	Outage Scheduler @ 713-207-2196 or 713-207-2714
Any transmission line outages and/or equipment outages, including busses, of 5 days or longer duration (daily or continuous)	90 Calendar Days notice	Outage Scheduler @ 713-207-2196 or 713-207-2714

### Forced Outages

Forced outages due to equipment emergencies will be handled by CenterPoint Energy - Real Time Operations and ERCOT System Operations on a case-by-case basis by the Customer contacting the Real Time Operations Security Desk at 713-207-2203.

Per ERCOT requirements, forced outage on EPS meters with no back-up or check meters must be corrected within 12 hours. Forced outages on EPS meters with back-up or check meters must be corrected within 5 days.



## 4 Switching, Clearances, Grounding

### 4.1 Billable Costs

- 4.1.1 Grounding and switching requested by Customer to be performed during other than normal working hours is billable to the Customer.
- 4.1.2 Grounding and switching charges will be waived under the following conditions:
  - 4.1.2.1 The party requesting switching and/or grounding activities by CenterPoint Energy is a transmission voltage service Customer who is interconnected to CenterPoint Energy's transmission system through a customer owned substation; and
  - 4.1.2.2 The requested activities are to allow the Customer to perform maintenance activities or equipment upgrades on its transmission voltage facilities within the Customer's substation; and
  - 4.1.2.3 The switching and grounding field activities are requested to occur on a normal CenterPoint Energy work day, with outages commencing no earlier than 0800, and outages concluding no later than 1600.
- 4.1.3 Outages extending beyond the timeframes identified in Section 4.1.2.3 on a forced basis may result in billing for associated switching and grounding activities, as determined on a case-by-case basis.
- 4.1.4 Outages with switching and/or grounding activities requested for more than two consecutive days may be subject to charges for each additional consecutive day, even if the outages occur within the timeframes identified in Section 4.1.2.3, unless early/intermittent outage restoration is required by ERCOT or for CNP system requirements.
- 4.1.5 Questions regarding charges should be directed to the Transmission Accounts representative.

### 4.2 Switching

- 4.2.1 CNP will provide all necessary switching at the remote end of a CNP transmission line for outages at a Customer substation which require switching of CNP transmission lines. CNP will provide switching instructions for the high voltage devices in the Customer substation that is directly interconnected with CNP's transmission system. Switching instructions are not provided for remote facilities interconnected to the customer substation that is directly interconnected with CNP's transmission system. A "Switching Order" form and a "Transmission Switching Check List" form are included in this document.
- 4.2.2 The Customer will follow switching instructions, provided by the RTO System Controller, prior to initiating any switching to remove equipment from service or return equipment to service in the Customer's facilities. The Customer will implement specific procedures for the switching of its facilities. These procedures will include a visual check that all phases have fully opened or

closed. A device bearing a Hold Tag will not be operated under any circumstances.

#### 4.3 Clearances

- 4.3.1 A clearance is required for applicable work on high voltage apparatus connected to CNP transmission lines when switching at the remote end of a CNP transmission line is necessary. Clearances are also issued when the Customer and CNP will be working on apparatus within the same isolated area at the Customer's facilities. Each party will be issued an individual clearance.
- 4.3.2 The Customer will request a clearance from the RTO System Controller when required. Personnel authorized by CNP will perform either "trip & hold" or "check for trip & hold" on necessary devices before a clearance will be issued.
- 4.3.3 A clearance cannot be released by anyone other than the person to whom it was issued unless uncontrollable circumstances make that impossible. In this situation, the person's supervisor may, after informing each member of the crew that such action is being taken, contact the RTO System Controller to release the clearance. For field personnel shift changes, the person assuming the leadership of the work will be issued a new clearance and the person to whom the clearance was originally issued will then release the clearance.

#### 4.4 Grounding

- 4.4.1 CNP issues clearances indicating that high voltage devices have been opened, locked, and tagged to prevent the devices from operating. The Customer will verify that the apparatus is de-energized before protective grounding is attached or work on high voltage facilities begins.
- 4.4.2 The Customer is responsible for assuring that protective grounds are installed on all de-energized electrical apparatus before applicable work is performed on it. When more than one party (e.g., the Customer and CNP) will be working on apparatus within the same isolated area at the Customer's facilities, each party will install their own individual grounds before applicable work is performed.
- 4.4.3 Work may be performed on the control circuits and mechanisms of a device without grounding the apparatus - if such work can be performed without risk of contact with primary voltages. Grounds may be temporarily removed if required by testing procedures.
- 4.4.4 Before a grounding device is attached to any conductor, that conductor will first be tested to confirm that it is de-energized. Grounds will be placed such that the operation of a switching device cannot remove their protection.
- 4.4.5 The clamps and conductors of grounding devices will be designed for the available fault current. Grounding devices must be inspected for broken strands and loose connections. The surface of the ground clamps must be clean of corrosion and oxides.
- 4.4.6 Grounding devices for transmission voltage conductors must be installed and removed with the use of applicable live line tools. Grounding devices must