



Control Number: 35077



Item Number: 415

Addendum StartPage: 0

Project No. 35077

Amendment No. 3

INTERCONNECTION AGREEMENT

Between

LCRA Transmission Services Corporation

and

The City of San Antonio (CPS Energy)

November 1, 2013

2013 NOV 25 PM 3:50

415

THIRD AMENDMENT
TO
INTERCONNECTION AGREEMENT

This Third Amendment wholly replaces the Facility Schedule No. 2 to the Interconnection Agreement, dated January 12, 2007 between The City of San Antonio acting by and through the City Public Service Board ("CPS Energy") and the LCRA Transmission Services Corporation ("LCRA TSC") (the "Agreement") is made and entered into this first day of November, 2013, between CPS Energy and the LCRA TSC, hereinafter individually referred to as "Party" and collectively referred to as "Parties". In consideration of the mutual promises and undertakings herein set forth, the Parties agree to amend the Agreement as follows:

1. Exhibit "A" attached to the prior Second Amendment are deleted in their entirety and the Exhibit "A" attached to this Third Amendment is hereby added to the Agreement in lieu thereof.
2. Revised Facility Schedule No. 2 (including the diagrams attached thereto) attached to this Third Amendment is hereby added to the Agreement. Revised Facility Schedule No. 2 will become effective upon execution of this Third Amendment by the Parties.
3. The Parties agree to interconnect their facilities at the Points of Interconnection in accordance with the terms and conditions, specified on the attached Revised Facility Schedule No. ~~2~~ 2.

Except as otherwise expressly provided for herein, the Agreement will continue in full force and effect in accordance with its terms.

IN WITNESS WHEREOF, the Parties have caused this Third Amendment to be executed in several counterparts, each of which shall be deemed an original but all shall constitute one and the same instrument.

THE CITY OF SAN ANTONIO ACTING
BY AND THROUGH THE CITY PUBLIC
SERVICE BOARD

By: 

Name: Frederick A. James

Title: Senior Vice President
Energy Delivery Services

Date: 10/29/2013

LCRA TRANSMISSION SERVICES
CORPORATION

By: 

Name: Ray Pfefferkorn, P.E.

Title: LCRA Transmission Engineering
Manager

Date: 11/20/13



**CPS ENERGY — LCRA TRANSMISSION SERVICES CORP.
INTERCONNECTION AGREEMENT**

EXHIBIT A — Amendment No. 3

LIST OF FACILITY SCHEDULES AND POINTS OF INTERCONNECTION

FACILITY SCHEDULE NO	NAME OF POINT OF INTERCONNECTION	INTERCONNECTION VOLTAGE (KV)	Effective Date (Anticipated)
1	Kendall — Cagnon	345	1/12/2007
2	Menger Creek — Helotes	138	11/1/2013
3	Medina Lake — Talley Road	138	08/02/2011
n/a			
n/a			

**CPS ENERGY - LCRA TRANSMISSION SERVICES CORP.
INTERCONNECTION AGREEMENT — AMENDMENT NO. 3**

REVISED FACILITY SCHEDULE NO. 2

1. **Name:** Menger Creek to Helotes
2. **Point of Interconnection location:** The Point of interconnection is located at the CPS Energy transmission line structure #153 where the Menger Creek to Helotes 138 kV transmission line changes ownership between CPS Energy and LCRA TSC near the county line between Kendall and Bexar counties. The Point of Interconnection shall be defined as the points where CPS Energy's jumpers connect to LCRA TSC's Transmission Line (defined below) which terminates on CPS Energy's transmission line structure #153. The attached diagram provides details regarding the Point of Interconnection.
3. **Facilities to be owned by CPS Energy:** CPS Energy's facilities associated with the Point of Interconnection shall include, but not be limited to, the following facilities: 138kV circuit breakers, disconnect switches, protective relaying and associated terminal facilities at Helotes substation; the 138kV transmission line from Helotes Substation to the Point of Interconnection ("CPS Energy's Transmission Line"), including foundations, structures, insulators, connectors, transmission line conductors, shield wire and associated hardware and assembly to terminate CPS Energy's Transmission Line on the CPS Energy's transmission line structure #153; and telemetry and communication facilities at Helotes Substation, including an RTU and a four-wire communication circuit from the RTU to CPS Energy's designated control center.
4. **Facilities to be owned by LCRA TSC:** LCRA TSC's facilities associated with the Point of Interconnection shall include, but not be limited to, the following facilities: 138kV circuit breakers, disconnect switches, protective relaying and associated terminal facilities at Menger Creek substation; the 138kV transmission line from Menger Creek Substation to the Point of Interconnection ("LCRA TSC's Transmission Line"), including foundations, structures, insulators, connectors, transmission line conductors, shield wire and associated hardware and assembly to terminate LCRA TSC's Transmission Line on CPS Energy's transmission line structure #153.

5. **Facility Connection Requirements:**

VOLTAGE: 138 kV

Determined in accordance with R2.1.3 of CPS Energy Facility Connection Requirements and Section 2.3 of LCRA TSC Facility Connection Requirements.

POWER CAPACITY: 382 MVA - normal continuous static rating

Determined in accordance with R2.1.3 of CPS Energy Facility Connection Requirements and Sections 2.3 and 2.11 of LCRA TSC Facility Connection Requirements.

The capacity of each owner's line section was determined by the Facilities Rating methodology of that Party, and each Party communicates their rating to ERCOT.

Upon request by ERCOT, both Parties will coordinate on dynamic ratings for the overall line.

BREAKER DUTY:

Menger Creek Substation Terminal: 40 kA

Helotes Substation Terminal: 63 kA

Determined in accordance with R2.1.4 of CPS Energy Facility Connection Requirements and

Section 2.4 of LCRA TSC Facility Connection Requirements.

SURGE PROTECTION:

Menger Creek Substation Terminal: 108 kV

Helotes Substation: Station Arrestors, 108 kV

LCRA TSC Transmission Line: N/A

CPS Energy Transmission Line: 84kV or 98kV MCOV lightning arrestors placed on CPS Energy's "B" phase (bottom phase of vertically configured circuit).

Determined in accordance with R2.1.4 of CPS Energy Facility Connection Requirements and

Section 2.4 of LCRA TSC Facility Connection Requirements.

SYSTEM PROTECTION & COORDINATION

The primary protection scheme for protection of the Menger Creek to Helotes line shall be Directional Comparison Blocking (DCB) utilizing on-off Power Line Carrier (PLC) signal. Due to the ring bus design at Menger Creek, a Direct Transfer Trip (DTT) scheme shall also be utilized which shall require the installation of a Power Line Carrier set at Helotes.

Menger Creek Substation Terminal:

Primary Line & Breaker Protection

Protective Functions: Directional Comparison Blocking Protection, Phase and Ground Impedance Protection, Breaker Failure Protection, Instantaneous Ground Over Current Protection, Directional Ground Over Current Protection, Reclosing.

Backup Line & Breaker Protection

Protective Functions: Phase and Ground Impedance Protection, Instantaneous Ground Over Current Protection, Directional Ground Over Current Protection, Breaker Failure Protection.

Direct Transfer Trip (transmit) via Power Line Carrier

All manual or automatic synchronization check functions shall be conducted at the Helotes Substation terminal, prior to closing the transmission line.

To ensure proper coordination and reliability, CPS Energy shall provide LCRA TSC with the following information before the energization of the Menger Creek to Helotes line:

1. Helotes Substation Operation One-Line;
2. Helotes Substation Relay One-Line; and
3. Helotes Substation Relay Settings for the new or revised line terminal protective relays.

Helotes Substation Terminal:

Primary Line & Breaker

Protection

Protective Functions: Directional Comparison Blocking Protection, Phase and Ground Impedance Protection, Phase and Ground Directional Overcurrent Protection. Breaker Failure Protection, Reclosing, Synch Check.

Backup Line & Breaker Protection

Protective Functions: Phase and Ground Impedance Protection, Breaker Failure Protection

Direct Transfer Trip (receive) via Power Line Carrier

To ensure proper coordination and reliability, LCRA TSC shall provide CPS Energy with the following information before the energization date of the Menger Creek to Helotes line:

1. Menger Creek Substation Operation One-Line;
2. Menger Creek Substation Relay One-Line; and
3. Menger Creek Substation Relay Settings for new line terminal protective relays.

Determined in accordance with R2.1.5 of CPS Energy Facility Connection Requirements and Section 2.5 of LCRA TSC Facility Connection Requirements.

METERING

Menger Creek Substation Terminal: N/A for metering. Line Telemetry (MW, MVAR, Volt) provided by protective relays.

Helotes Substation Terminal: CPS Energy shall install ERCOT Settlement Metering at the Helotes Substation. Line Telemetry (MW, MVAR, Volt) provided by protective relays.

Determined in accordance with R2.1.6 of CPS Energy Facility Connection Requirements and Section 2.6 of LCRA TSC Facility Connection Requirements.

TELECOMMUNICATIONS. INCLUDING PROTECTION COMMUNICATIONS

Menger Creek Substation Terminal: LCRA TSC shall provide all LCRA TSC required communication circuits using microwave radio. For protection communications, LCRA TSC shall provide wave trap, tuner, and power line carrier equipment to perform Directional Comparison Blocking and Direct Transfer Trip schemes.

Helotes Substation Terminal: CPS Energy shall provide all CPS Energy required communication circuits over microwave. For protection communications, CPS Energy shall provide wave trap, tuner, and power line carrier equipment to perform Directional Comparison Blocking and Direct Transfer Trip schemes.

Determined in accordance with R2.1.6 of CPS Energy Facility Connection Requirements and Section 2.6 of LCRA TSC Facility Connection Requirements.

6

REMOTE SCADA SYSTEMS

Menger Creek Substation Terminal: RTU for communication of data and control to the LCRA TSC SCADA system.

Helotes Substation Terminal: RTU for communication of data and control to the CPS Energy SCADA system.

Determined in accordance with R2.1.6 of CPS Energy Facility Connection Requirements and Section 2.6 of LCRA TSC Facility Connection Requirements.

GROUNDING AND SAFETY ISSUES

Menger Creek Substation Terminal: Terminal and incoming static conductor will be connected to the substation ground grid.

Helotes Substation Terminal: Incoming static conductor will be connected to the terminal which is connected to the substation ground grid.

LCRA TSC Transmission Line: One Shield Wire, grounded at every structure.

CPS Energy Transmission Line: One Shield Wire, grounded at every structure through the foundation footing.

Determined in accordance with R2.1.7 of CPS Energy Facility Connection Requirements and Section 2.7 of LCRA TSC Facility Connection Requirements.

INSULATION AND INSULATION COORDINATION

Menger Creek Substation Terminal: 650 kV BIL

Helotes Substation Terminal: 650 kV BIL

LCRA TSC Transmission Line: CFO values: 760kV - polymer insulators

CPS Energy Transmission Line: CFO values: 745kV - polymer insulators, 2500Kv glass/porcelain insulators

Coordinated in accordance with R2.1.8 of CPS Energy Facility Connection Requirements and

Section 2.8 of LCRA TSC Facility Connection Requirements.

VOLTAGE, REACTIVE POWER, AND POWER FACTOR CONTROL NA

POWER

QUALITY NA

EQUIPMENT RATINGS

Menger Creek Substation Terminal: 138 kV, 2000 A, 40 kA, 650 kV BIL

Helotes Substation Terminal: 138 kV, 1600 A, 63 kA, 650 kV BIL

LCRA TSC Transmission Line: 138 kV, 1846 A, 441 MVA at 105° F ambient.

CPS Energy Transmission Line: 138 kV, 1848 A, 441 MVA

Determined in accordance with R2.1.11 of CPS Energy Facility Connection Requirements and

Section 2.11 of LCRA TSC Facility Connection Requirements.

SYNCHRONIZING OF FACILITIES

All manual or automatic synch check functions shall be conducted at the Helotes terminal, prior to closing the transmission line.

Determined in accordance with R2.1.12 of CPS Energy Facility Connection Requirements and Section 2.12 of LCRA TSC Facility Connection Requirements.

MAINTENANCE COORDINATION

Maintenance Coordination will be performed in accordance with Section 2.7 of the ERCOT Operating Guides and Section 8 of the ERCOT Protocols. If any maintenance outage has the potential to impact the other, the entity that will be affected must be contacted and give approval prior to the device(s) being removed from service.

When switching is required to isolate equipment involving both parties, appropriate switching orders will be issued by each entity. CPS Energy will issue a "Clearance" if protective grounds are to be installed. Otherwise, a "Procedure" will be issued to document the abnormal state. Both parties will install tags and locks on the associated field equipment and install tags on all SCADA controlled points. Recloser relays may be disabled for the Safety of Field Personnel or System Reliability when agreed to by both Parties. This will be accompanied by the appropriate documentation and tags installed if applicable. In this particular instance, CPS Energy will issue a "Procedure".

The Parties will coordinate, consistent with maintaining good operating practices, their operations to maintain continuity of services to their respective customers to the extent practicable. Planned facility maintenance by either Party that will cause a deviation from the normal power and energy flow at a Point of Interconnection will be scheduled at a mutually agreeable time. No changes will be made in the normal operation of a Point of Interconnection without the mutual agreement of the Parties. The Parties will coordinate, to the extent necessary to support continuity of operations, the operation of protective devices on the facilities they operate in the proximity of the Points of Interconnection which might reasonably be expected to affect the operation of facilities on the other Party's system.

Stated in accordance with R2.1.13 of CPS Energy Facility Connection Requirements and Section 2.13 of LCRA TSC Facility Connection Requirements.

ABNORMAL OPERATING CONDITIONS

See Article 4 of Interconnection Agreement.

Both Parties must operate during abnormal conditions (frequency and voltage) as specified by section 4 of the ERCOT Operating Guides.

Determined in accordance with R2.1.14 of CPS Energy Facility Connection Requirements and Section 2.14 of LCRA TSC Facility Connection Requirements.

INSPECTION REQUIREMENTS FOR EXISTING OR NEW FACILITIES

Each Party has discretion over the inspection requirements of its own facilities, in accordance with good utility practices and the ERCOT Operating Guides.

Each Party reserves the right, upon request, to review the other Party's design schemes, equipment placement and ratings.

Determined in accordance with R2.1.15 of CPS Energy Facility Connection Requirements and Section 2.15 of LCRA TSC Facility Connection Requirements.

COMMUNICATION PROCEDURES DURING NORMAL & EMERGENCY CONDITIONS

Each Party must be registered and in good standings with ERCOT.

Normal and emergency operating procedures must be followed as specified in the ERCOT Guides and ERCOT Protocols. Each Party must provide each other with a 24 hour primary and secondary contact number to discuss any operational issues on a real time basis.

The LCRA TSC Transmission System Operator shall assist CPS Energy in implementing all transmission switching functions as necessary according to this interconnect agreement, good utility practice, and to safely and efficiently operate the transmission bulk system.

The LCRA TSC Transmission System Operator shall notify ERCOT and CPS Energy of any abnormal relaying configuration that may affect reliability at the Point of Interconnection.

The LCRA TSC Transmission System Operator shall render available emergency assistance to CPS Energy provided CPS Energy has completed implementation of its own emergency procedures. These actions by the LCRA TSC Transmission System Operator shall not, however, violate safety, equipment, or regulatory or statutory requirements.

The LCRA TSC Transmission System Operator shall not remove any facilities from service that would burden CPS Energy. If removal is necessary, the LCRA TSC Transmission System Operator shall contact ERCOT and CPS Energy at the earliest possible time and explain the impact of removing such facilities.

Determined in accordance with R2.1.16 of CPS Energy Facility Connection Requirements and Section 2.16 of LCRA TSC Facility Connection Requirements.

SUPPLEMENTAL TERMS AND CONDITIONS:

- Each Party will be responsible for the operation and maintenance of the facilities it owns.
- Each Party will be responsible for all costs each incurs in connection with this Point of Interconnection.
- CPS Energy will be the "TO with TADS Reporting Responsibility" for NERC TADS reporting associated with the Menger Creek to Helotes 138kV line.

