



Control Number: 35077



Item Number: 242

Addendum StartPage: 0

**Project No. 35077**

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**First Amendment to**

**INTERCONNECTION AGREEMENT**

**Between**

**Central Texas Electric Cooperative**

**and**

**LCRA Transmission Services Corporation**

**June 22, 2011**

## **FIRST AMENDMENT TO INTERCONNECTION AGREEMENT**

This First Amendment ("Amendment") is made and entered into this 22 day of JUNE, 2011, between the Central Texas Electric Cooperative ("CTEC") and LCRA Transmission Services Corporation ("LCRA TSC") collectively referred to hereinafter as the Parties.

**WHEREAS**, the LCRA TSC and the CTEC entered into that certain Interconnection Agreement executed August 13, 2009, and;

**WHEREAS**, changes are being approved in this First Amendment in advance of the work being completed and energized, and;

**WHEREAS**, an error was made on the ownership of PT-6 in the original Facility Schedule No. 8 for Pittsburg Substation, and;

**WHEREAS**, the CTEC requested a change in the layout of the circuit switcher, transformer and distribution bays in the Jack Furman substation, and;

**WHEREAS**, the CTEC installed a different transformer than was originally planned, requiring the addition of regulator REG-1 and CT-1 in the Jack Furman substation, and;

**WHEREAS**, LCRA TSC is installing an auto transformer and breakers and CTEC is installing a circuit switcher and moving a breaker at the CTEC Mason substation

**NOW, THEREFORE**, in consideration of the mutual promises and undertakings herein set forth, the Parties agree to amend the Agreement as follows:

1. Section 1.1 of the Interconnection Agreement is modified with a replacement page 1 to include a statement that addresses items which have been included in an Interconnection Agreement or Amendment prior to their completion.
2. Exhibit "A" attached to the Agreement is deleted in its entirety and Exhibit "A" attached to this First Amendment is hereby added to the Agreement in lieu thereof.
3. Facility Schedule No. 8 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 8 attached to this First Amendment is hereby added to the Agreement in lieu thereof.
4. Facility Schedule No. 8 (including the diagrams attached thereto) attached to this First Amendment will become effective upon execution of this First Amendment by the Parties.
5. Facility Schedule No. 11 (including the diagrams attached thereto) is deleted in its

entirety and Facility Schedule No. 11 attached to this First Amendment is hereby added to the Agreement in lieu thereof.

6. Facility Schedule No. 11 (including the diagrams attached thereto) attached to this First Amendment will become effective upon execution of this First Amendment by the Parties.
7. Facility Schedule No. 13 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 13 attached to this First Amendment is hereby added to the Agreement in lieu thereof.
8. Facility Schedule No. 13 (including the diagrams attached thereto) attached to this First Amendment will become effective upon execution of this First Amendment by the Parties.

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

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

CENTRAL TEXAS ELECTRIC  
COOPERATIVE

By: Robert A. Loth III

Name: Robert A. Loth III

Title: Chief Executive Officer

Date: 6/22/11

LCRA TRANSMISSION SERVICES  
CORPORATION

By: Ray Pfefferkorn

Name: Ray Pfefferkorn, P.E.

Title: LCRA Transmission Engineering  
Manager

Date: 6/20/11



(replacement page 1)

**INTERCONNECTION AGREEMENT  
BETWEEN  
CENTRAL TEXAS ELECTRIC COOPERATIVE  
AND  
LCRA TRANSMISSION SERVICES CORPORATION**

This Agreement is made and entered into this 13 day of August, 2009, by and between the Central Texas Electric Cooperative ("CTEC") and LCRA Transmission Services Corporation ("LCRA TSC") each sometimes hereinafter referred to individually as "Party" or both referred to collectively as "Parties".

**WITNESSETH**

WHEREAS, each Party is the owner and operator of transmission and/or distribution facilities and is engaged in the business of transmitting electric energy to the general public within the Electric Reliability Council of Texas; and

WHEREAS, the Parties desire to interconnect their respective transmission and/or distribution systems in the respects, and under the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and conditions herein set forth, the Parties agree as follows

**ARTICLE I – EFFECTIVE DATE AND TERM**

1.1 This Agreement and any subsequent addendum to this Agreement shall become effective on the date of execution by both Parties. Items, which are executed in advance, will become effective when they are completed and energized. Unless otherwise mutually agreed, this Agreement shall remain in effect initially for a period of thirty (30) years from the effective date, and shall continue in effect thereafter for periods of five (5) years each unless canceled after such initial period or any subsequent period either by mutual agreement or by either Party upon at least 36 months written notice to the other party.

**ARTICLE II – OBJECTIVE AND SCOPE**

2.1 It is the intent of the Parties, by this Agreement, to state the terms and conditions under which the Parties' transmission and/or distribution systems will be interconnected and to identify the facilities and equipment provided by each Party at the points of interconnection between their systems.

2.2 This Agreement shall apply to the ownership, construction, operation and maintenance of those facilities which are specifically identified and described in the Facility Schedules which are attached hereto and incorporated herein.

**EXHIBIT A**  
First Amendment

<b>FACILITY SCHEDULE NO.</b>	<b>LOCATION OF POINT(S) OF INTERCONNECTION (# of Points)</b>	<b>INTERCONNECTION VOLTAGE (KV)</b>	<b>EFFECTIVE DATE OF INTERCONNECTION</b>
1	Buchanan CTEC (6)	69 kV	8/13/2009
2	Castell (1)	138 kV	8/13/2009
3	Eckert (2)	4.16 kV	8/13/2009
4	Fredericksburg (1)	69 kV	8/13/2009
5	Kendall CTEC (1)	138 kV	8/13/2009
6	Live Oak CTEC (1)	69 kV	8/13/2009
7	Nimitz (9)	12.5 kV	8/13/2009
8	Pittsburg (1)	138 kV	Date of Amendment
9	Rim Rock (6)	12.5 kV	8/13/2009
10	Wolf Creek (1)	138 kV	8/13/2009
11	Jack Furman (1)	138 kV	Date of Amendment
12	Sunrise Beach (1)	69 kV	8/13/2009
13	CTEC Mason (1)	69 kV	Date of Amendment
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## **FACILITY SCHEDULE NO. 8**

1. **Name:** Pittsburg Substation
2. **Facility Location:** The Pittsburg Substation is located at 1504 Birmingham Ave., Llano, Llano County, Texas 78643.
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Pittsburg Substation generally described as:
  - where the pipe from switch 11834 attaches to the 138 kV operating bus #1.
4. **Transformation Services Provided by LCRA TSC:** No
5. **Metering Services Provided by LCRA TSC:** Yes
6. **Delivery Voltage:** 138 kV
7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformers are located in bus tie bay #1-3 and bus tie bay #2-8, along with metering CT-21 inside the CTEC PWT-3, T-4. The bus potential transformers are located on both 12.5 kV operating bus #1 and 12.5 kV operating bus #2.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

CTEC owns:

  - 138 kV bay 1 dead end structure, foundations, insulators and jumpers
  - Transformer PWT-3, T-4 bus support structure, foundations, insulators and jumpers
  - One (1) circuit switcher CS-11835 and associated disconnect switch 11834 and bypass switch 11837
  - One (1) power transformer PWT-3, T-4 with internal metering CT-21 and with associated surge arresters
  - One (1) power transformer PWT-2, T-3 and associated surge arresters, disconnect switches and bypass switch
  - Four (4) distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
  - Five (5) distribution and total circuit breakers PG-10, PG-20, PG-40, PG-50 and PG-130 including jumpers and protective relay packages
  - Six (6) distribution and total bays (bays 1-1 thru 1-5 and 1-13) including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus, and associated cabling



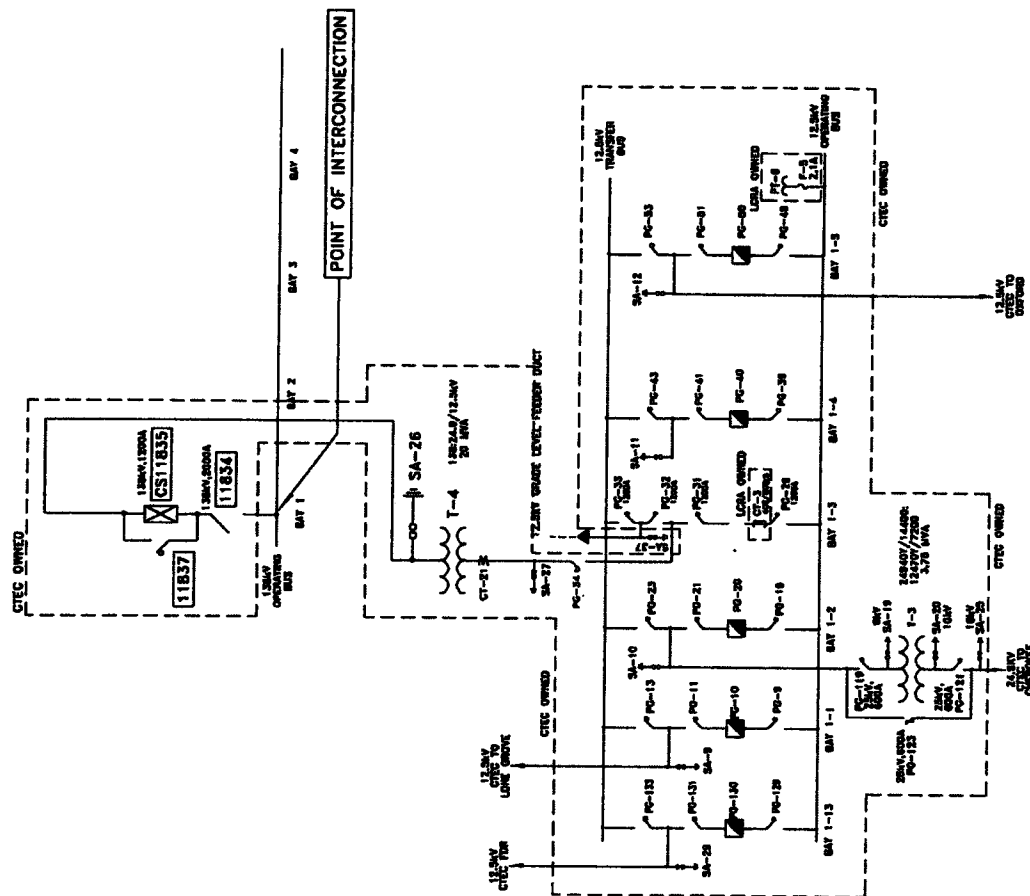
LCRA TSC owns: The Pittsburg Substation including, but not limited to, the following items:

- 138 kV dead-end structures, foundations, insulators and jumpers (except bay 1)
- 138 kV operating bus including structures, insulators, foundations and jumpers
- 12.5 kV grade level bus tie / mobile hookup cables and pad mounted transfer switch
- 12.5 kV bus potential transformer PT-6
- Two (2) metering current transformers CT-3 and CT-8 (not shown on one-line)
- Two (2) control houses
- Two (2) station service
- Underfrequency relay panel

10. **Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.
11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.
12. **Other Terms and Conditions:** CTEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.

# PITTSBURG ONE-LINE DIAGRAM

## First Amendment



**FACILITY SCHEDULE NO. 11**  
**First Amendment**

1. **Name:** Jack Furman Substation
2. **Facility Location:** The Jack Furman Substation is located at 267 Goat Creek Cutoff Road, Kerrville, Kerr County, TX 78028
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Jack Furman Substation generally described as:
  - where the 138 kV Operating Bus expansion terminal bolts to the four hole pad of switch 21874.
4. **Transformation Services Provided by LCRA TSC:** No
5. **Metering Services Provided by LCRA TSC:** Yes
6. **Delivery Voltage:** 138 kV
7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformer is located in the total bay. The bus potential transformer is located on the 12.5 kV operating bus.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

CTEC owns:

  - One (1) circuit switcher CS-21875 with associated disconnect and bypass switches 21874 and 21877
  - One (1) power transformer T-1 with associated surge arresters
  - Three (3) single phase voltage regulators REG-1
  - One (1) transformer bus disconnect switch JF-01
  - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
  - All distribution circuit breakers including jumpers, protective relay packages and foundations
  - One (1) 12.5 kV bus potential transformer PT-4
  - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus, MTU, and associated cabling
  - Station Service, SS-1 with fuse F-1

**LCRA TSC owns:**

**The Jack Furman Substation including, but not limited to, the following items:**

- 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV bus including structures, insulators, foundations and jumpers
- Four (4) 138 kV switches 21869, 21871, 21909 and 21911
- Two (2) 138 kV circuit breakers 21870 and 21910 including jumpers and protective relay packages
- One (1) metering current transformer CT-1
- Control house and battery

- 10. Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.
- 11. Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.
- 12. Other Terms and Conditions:** CTEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.

# JACK FURMAN ONE-LINE DIAGRAM

First Amendment



JACK FURMAN SUBSTATION  
 THIS IS NOT A COMPLETE ONE-LINE DIAGRAM  
 FOR A COMPLETE ONE-LINE DIAGRAM OF THE SUBSTATION  
 REFER TO DRAWING S586-E-0001-01

**FACILITY SCHEDULE NO. 13**  
**First Amendment**

1. **Name:** CTEC Mason Substation (aka Fredonia Tap)
2. **Facility Location:** The Central Texas Electric Cooperative (CTEC) Mason Substation is located 3 miles east of the City of Mason at 3226 E. State Hwy 29, Mason County, Texas.
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the (CTEC) Mason Substation generally described as:
  - where the LCRA TSC jumper from the LCRA TSC insulator, mounted on the CTEC 69 kV box structure, connects to the CTEC 69 kV string bus running in the CTEC 69 kV box structure.
4. **Transformation Services Provided by LCRA TSC:** No
5. **Metering Services Provided by LCRA TSC:** Yes
6. **Delivery Voltage:** 69 kV
7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformers are owned by LCRA TSC and located between the station voltage regulators and the 24.9 kV operating bus. The potential transformers are owned by CTEC and located on the 24.9 kV operating bus.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

CTEC owns:

The CTEC Mason Substation including but not limited to the following items:

  - The following transmission lines comprised of conductors, insulators, and connecting hardware:
    - CTEC Mason to Fredonia 69 kV transmission line
  - The following facilities inside the CTEC Mason Substation:
    - One (1) power transformer T-1 with associated surge arresters
    - Three (3) single phase regulators REG-1 with associated disconnect and bypass switches, foundations, insulators and jumpers
    - 69 kV box structure including insulators, 69 kV operating bus (string bus), jumpers and foundations (except for LCRA TSC insulators and jumpers noted as being owned by LCRA TSC)
    - One (1) 69 kV circuit switcher CS-22615 and associated disconnect and bypass switches 22614 and 22617
    - One (1) 69 kV bus potential transformer PT-1
    - One (1) 69 kV current transformer CT-4

- Two (2) 69 kV surge arresters SA-1 and SA-2
- One (1) 69 kV circuit breaker CB-22620 including jumpers and protective relay package
- Five (5) 69 kV switches 883, 22618, 22619, 22621 and 22623
- All distribution and total bays including box structure, insulators, disconnect switches, 24.9 kV operating and transfer bus and associated cabling
- Control house (12' x 15') and battery bank
- Station Service SS-1 with fuse F-3

**LCRA TSC owns:**

- The following transmission lines comprised of conductors, insulators, and connecting hardware:
  - CTEC Mason to Fort Mason 138 kV transmission line
  - CTEC Mason to Castell / Pittsburg 138 kV transmission line
- The following facilities inside the CTEC Mason Substation:
  - Two (2) 138kV dead end structures, foundations and insulators
  - Two (2) 138 kV motor operated sectionalizing switches MO-22531 and MO-22541
  - One (1) 138 kV mobile hookup switch 22506
  - One (1) 69 kV mobile hookup switch 22508
  - One (1) 138 kV surge arrester SA-10
  - One (1) CCVT, CCVT-1
  - 138 kV operating bus including structures, foundations and jumpers
  - One (1) 138 kV circuit breaker 22500 with associated disconnect switch 22499, including jumpers and protective relay package
  - One (1) auto transformer AT-2 with associated surge arresters
  - One (1) 69 kV circuit breaker CB-22610 with associated switches 22609 and 22611, including jumpers and protective relay package
  - 69 kV operating bus including structures, foundations and jumpers
  - One (1) per phase, 69 kV insulator and jumpers mounted to CTEC box structure, adjacent to Point of Interconnection with CTEC 69 kV operating bus (string bus)
  - Supervisory Interface Panel / RTU Panel and associated cabling
  - Metering/Underfrequency Panel and associated cabling
  - One (1) metering current transformer CT-1
  - One (1) 24.9 kV bus potential transformer PT-2 with fuse F-2
  - Control house (24' x 42') and battery bank
  - Station Service SS-2 with fuse F-4

- 10. Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.
- 11. Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

**12. Other Terms and Conditions:**

- CTEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.
- LCRA TSC will move the Meter/Under Frequency, RTU and SIP panels from the CTEC control house to the new LCRA TSC control house



# CTEC MASON ONE-LINE DIAGRAM

First Amendment

