



Control Number: 35077



Item Number: 335

Addendum StartPage: 0

Project No. 35077

Amendment No. 5

INTERCONNECTION AGREEMENT

Between

San Bernard Electric Cooperative

and

LCRA Transmission Services Corporation

November 13, 2012

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**INTERCONNECTION AGREEMENT
AMENDMENT NO. 5**

This Amendment No. 5 ("Amendment") is made and entered into this 13th day of November, 2012, between San Bernard Electric Cooperative ("SBEC") and LCRA Transmission Services Corporation ("LCRA TSC"), collectively referred to hereinafter as the Parties.

WHEREAS, the LCRA TSC and SBEC entered into that certain Interconnection Agreement executed February 9, 2009, as amended by that certain Amendment No. 1 executed as of August 4, 2009, as amended by that certain Amendment No. 2 executed as of April 20, 2011, as amended by that certain Amendment No. 3 executed as of December 12, 2011, as amended by that certain Amendment No. 4 executed as of May 2, 2012 collectively, as amended, the "Agreement"); and

WHEREAS, the SBEC is adding a power transformer and additional distribution at Colorado Substation; and

WHEREAS, the LCRA TSC is swapping AT1 and AT2 at Glidden Substation; and

WHEREAS, Thorstenburg Switch Structure has been removed by SBEC; and

WHEREAS, the LCRA TSC will replace circuit switcher CS3085 and add a 138 kV disconnect switch at Waller Substation;

NOW, THEREFORE, 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 Agreement is deleted in its entirety and the Exhibit "A" attached to this Amendment No. 5 is hereby added to the Agreement in lieu thereof.
2. Exhibit "A" attached to this Amendment No. 5 is effective upon execution of this Amendment No. 5 by the Parties.
3. Facility Schedule No. 4 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 4 attached to this Amendment No. 5 is hereby added to the Agreement in lieu thereof.
4. Facility Schedule No. 4 (including the diagrams attached thereto) attached to this Amendment No. 5 is effective upon execution of this Amendment No. 5 by the Parties.
5. Facility Schedule No. 6 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 6 attached to this Amendment No. 5 is hereby added to the Agreement in lieu thereof.
6. Facility Schedule No. 6 (including the diagrams attached thereto) attached to this Amendment No. 5 is effective upon execution of this Amendment No. 5 by the Parties.

7. Facility Schedule No. 14 (including the diagrams attached thereto) is deleted in its entirety.

8. Facility Schedule No. 15 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 15 attached to this Amendment No. 5 is hereby added to the Agreement in lieu thereof.

9. Facility Schedule No. 15 (including the diagrams attached thereto) attached to this Amendment No. 5 is effective upon execution of this Amendment No. 5 by the Parties.

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 Amendment No. 5 to be executed in several counterparts, each of which shall be deemed an original but all shall constitute one and the same instrument.

SAN BERNARD ELECTRIC
COOPERATIVE

By: Don Roberts

Name: Don Roberts

Title: SBEC Electric Systems Manager

Date: 11/13/12

LCRA TRANSMISSION SERVICES
CORPORATION

By: Ray Pfefferkorn

Name: Ray Pfefferkorn, P.E.

Title: LCRA Transmission Engineering
Manager

Date: 11/20/12



EXHIBIT A
Amendment No. 5

FACILITY SCHEDULE NO.	LOCATION OF POINT(S) OF INTERCONNECTION (# of Points)	INTERCONNECTION VOLTAGE (KV)	EFFECTIVE DATE OF INTERCONNECTION
1	Bellville North (12)	12.5 kV	2/9/2009
2	Bellville South (3)	69 kV	2/9/2009
3	Bernardo (1)	69 kV	March 8, 2012
4	Colorado (10)	12.5 kV/69 kV	Date of 5 th amendment
5	Frelsburg (1)	138 kV	March 8, 2012
6	Glidden (1)	69 kV	Date of 5 th amendment
7	Hallettsville City (6)	12.5 kV	4/20/2011
8	Macedonia(3)	24.9 kV/138 kV	March 8, 2012
9	New Bremen (12)	12.5 kV	4/20/2011
10	Prairie View (4)	138 kV	March 8, 2012
11	Quanex (2)	12.5 kV/69 kV	2/9/2009
12	Quanex Switch Structure (3)	69 kV	2/9/2009
13	Sheridan Switch Structure (3)	69 kV	2/9/2009
14	Thorstenburg Switch Structure (0) (deleted)	69 kV	Date of 5 th amendment
15	Waller (5)	12.5 kV/138 kV	Date of 5 th amendment
16	Rock Island (0) (deleted)		March 8, 2012
17	Seaway (0) (deleted)		March 8, 2012
18	Sheridan (0) (deleted)		March 8, 2012
19	Sunnyside (0) (deleted)		March 8, 2012
20	Thorstenburg #2 (0) (deleted)		March 8, 2012
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FACILITY SCHEDULE NO. 4

Amendment No. 5

1. **Name:** Colorado Substation
2. **Facility Location:** The Colorado Substation is located at 1075 Renner Fwy. (Alt 90), Sheridan, Colorado County, Texas 77475.
3. **Points of Interconnection:** There are ten (10) Points of Interconnection in the Colorado Substation generally described as:
 - where the jumper from LCRA TSC switch 9523 connects to the SBEC 69 kV wire bus, from SBEC switch 24506, at the box structure insulator string.
 - where the incoming distribution line connects to the tubular bus between switches CD-31 and CD-33 at breaker CD-30.
 - where the jumper from breaker CD-30, passing through CT-6, connects to the 4 hole pad on switch CD-31.
 - where the jumper from breaker CD-30 connects to the 4 hole pad on switch CD-29.
 - where the incoming distribution line connects to the tubular bus between switches CD-41 and CD-43 at breaker CD-40.
 - where the jumper from breaker CD-40, passing through CT-7, connects to the 4 hole pad on switch CD-41.
 - where the jumper from breaker CD-40 connects to the 4 hole pad on switch CD-39.
 - where the incoming distribution line connects to the tubular bus between switches CD-51 and CD-53 at breaker CD-50.
 - where the jumper from breaker CD-50, passing through CT-8, connects to the 4 hole pad on switch CD-51.
 - where the jumper from breaker CD-50 connects to the 4 hole pad on switch CD-49.
4. **Transformation Services Provided by LCRA TSC:** Yes (T-1 only)
5. **Metering Services Provided by LCRA TSC:** Yes
6. **Delivery Voltage:** 12.5 kV/69 kV
7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformers are located in T-1 total bay, in each T-1 distribution bay and in the T-2/12.5 kV transformer bus. The bus potential transformers are located on the 12.5 kV operating buses.
8. **One Line Diagram Attached:** Yes

9. Description of Facilities Owned by Each Party:

SBEC owns:

Approximately ½ of the Colorado Substation including, but not limited to, the following items:

- The following transmission line comprised of conductors and connecting hardware:
 - 69 kV Colorado to Sheridan transmission line
- One (1) 69 kV surge arrester.
- One (1) 69 kV T-2 operating bus up to the dead end insulator string at the LCRA TSC 69 kV box structure
- One (1) 69 kV circuit breaker 24500 including foundation, jumpers and protective relay package
- Six (6) 69 kV switches 24499, 24501, 24502, 24503, 24504 and 24506
- One (1) 69 kV circuit switcher CS24505 with bypass switch 24507
- One (1) power transformer T-2 with associated surge arresters
- Five (5) distribution and bus tie circuit breakers CD-30, CD-40, CD50, CD100, 110 and CD-120 including foundations, jumpers and protective relay packages
- All T-2 distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus, bus potential transformer, and associated cabling
- Two (2) station service for new SBEC control house
- SBEC control house and batteries
- Underfrequency relay equipment (disabled)
- Ground grid and fencing and other appurtenances in SBEC owned portion of yard.

LCRA TSC owns:

Approximately ½ of the Colorado Substation including, but not limited to, the following items:

- 69 kV dead-end box structure including foundations, conductors and insulators
- Two (2) 69 kV circuit breakers 9530 and 970 including foundations, jumpers and protective relay package
- Eleven (11) 69 kV switches 902, 904, 969, 971, 973, 9264, 9523, 9528, 9529, 9531 and 9533
- Two (2) 69 kV surge arresters SA1 and SA-2
- One (1) 69 kV bus potential transformer PT-1
- One (1) power transformer T-1 with associated surge arresters
- One (1) circuit switcher CS9265 including foundation, jumpers and protective relay package
- One (1) capacitor bank CP-1
- One (1) current transformer CT-1 for capacitor bank CP-1
- Two (2) single phase current transformers CT-5, and CT-2
- One (1) metering unit MU-1
- One (1) metering current transformer CT-10
- All T-1 distribution and total bays including A-frames, trusses, insulators,

disconnect switches, surge arresters, 12.5 kV operating and transfer bus, bus potential transformer, metering current transformers and associated cabling

- Two (2) Station service SS-1 and SS-2
- LCRA TSC control house and batteries
- Ground grid and fencing and other appurtenances in LCRA TSC owned portion of yard.

10. Operational Responsibilities of Each Party: Each Party is responsible for the operation of the equipment it owns.

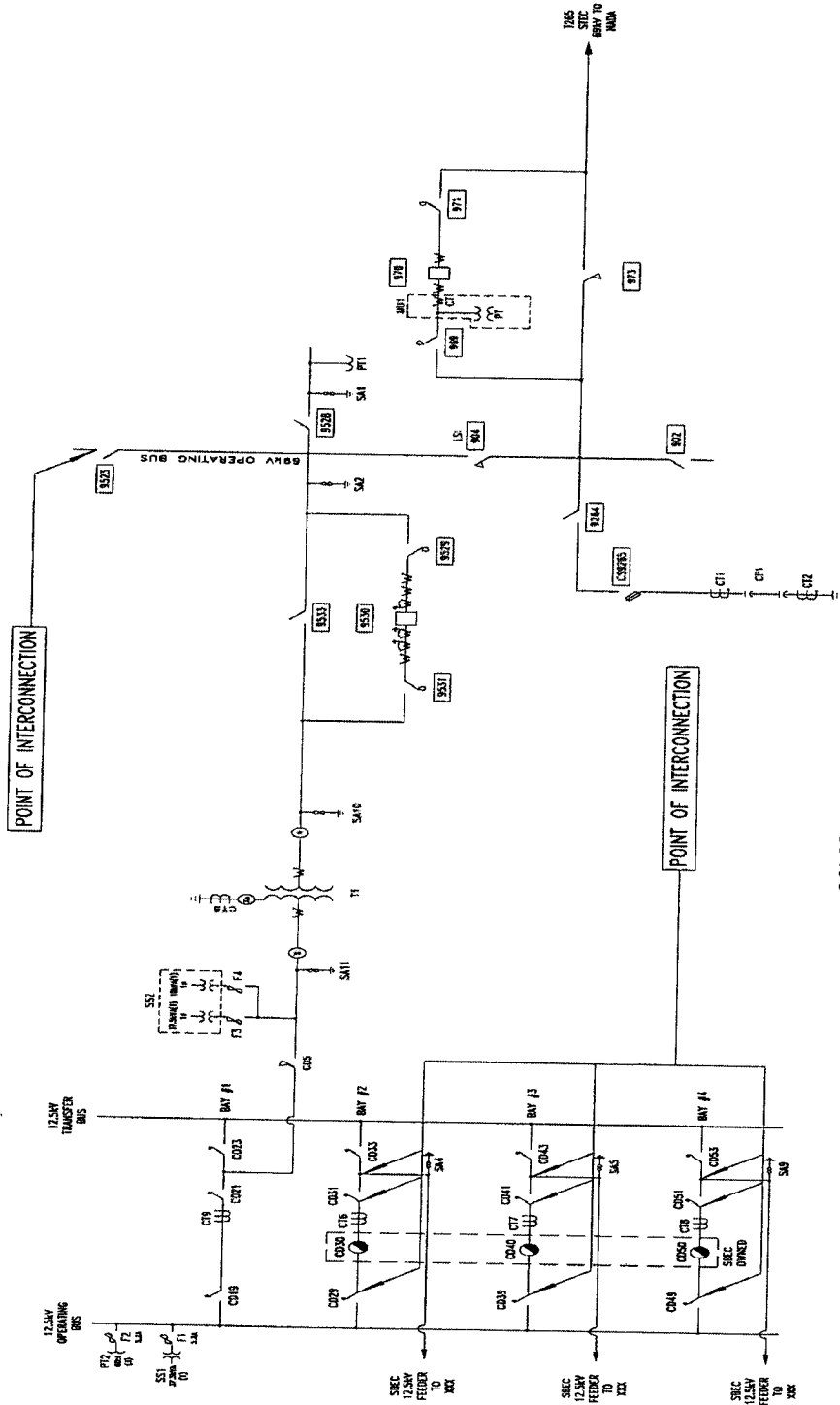
11. Maintenance Responsibilities of Each Party: Each Party will be fully responsible for the maintenance of the equipment it owns.

12. Other Terms and Conditions:

- SBEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.
- SBEC will purchase and own the additional property required for the 2012 addition to the substation. SBEC will tie its ground grid and fencing to the LCRA TSC's ground grid and fencing.

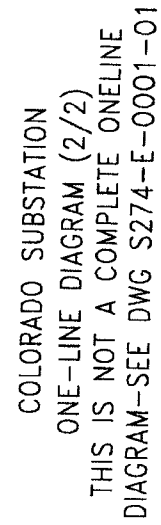
COLORADO ONE-LINE DIAGRAM

Amendment No. 5



COLORADO SUBSTATION
ONE-LINE DIAGRAM (1/2)
THIS IS NOT A COMPLETE ONE-LINE
DIAGRAM-SEE DWG S274-E-0001-01

Amendment No. 5



FACILITY SCHEDULE NO. 6

Amendment No. 5

1. **Name:** Glidden Substation
2. **Facility Location:** The Glidden Substation is located at 2058 Montezuma, Columbus, Colorado County, Texas 78934.
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Glidden Substation generally described as:
 - where the incoming 69 kV SBEC operating bus terminates at the dead end structure in 69 kV bay #1.
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 12.5 kV. The metering current transformers are located in the T-3; 12.5 kV transformer bus. The bus potential transformer is on the 12.5 kV operating bus.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

SBEC owns:

 - 69 kV dead-end box structure, foundations, conductors, insulators and jumpers
 - 69 kV operating bus including conductors and insulators from 69 kV box structure to 69 kV bay #1
 - One (1) 69 kV circuit breaker 120 including foundation, jumpers
 - Five (5) 69 kV switches 119, 121, 122, 123 and 124
 - One (1) 60 kV surge arrester SA-8
 - One (1) 69 kV power fuse F-6
 - One (1) power transformer T-3
 - Three (3) single phase regulators REG-1 with associated disconnect switches, bypass switch and foundation
 - One (1) low voltage transformer bus disconnect switch CL-54
 - 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
 - All distribution and total bays including box structure, insulators, disconnect switches, surge arresters, 12.5 kV operating bus, bus potential transformer, current transformer and associated cabling

- One (1) load management system LM
- Underfrequency relay equipment
- Battery and battery charger
- One (1) station service SS-4

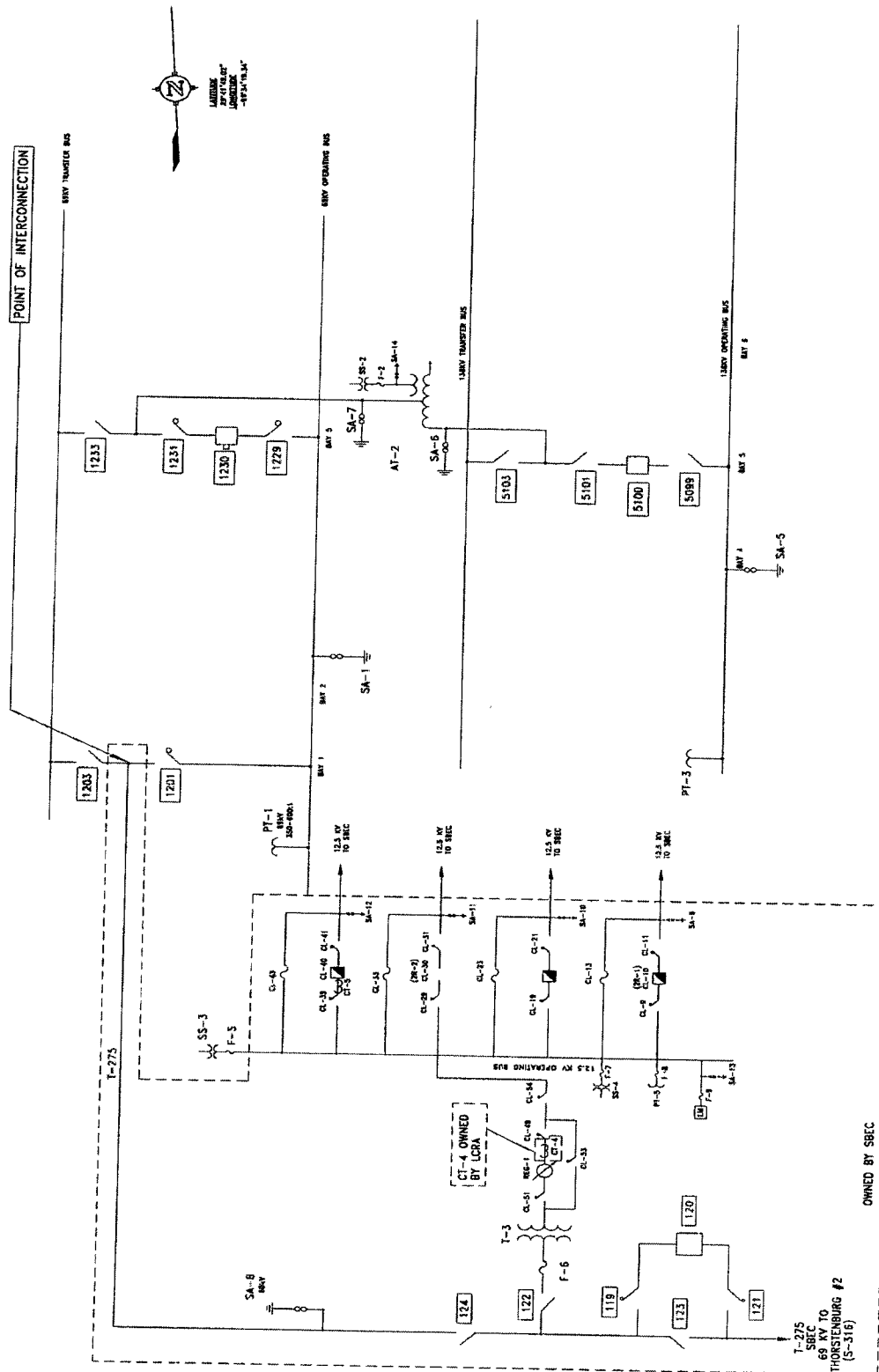
LCRA TSC owns:

The Glidden Substation including, but not limited to, the following items:

- 69 kV operating and transfer bus including structures, insulators, foundations and jumpers
- One (1) 69 kV circuit breaker 1230 including foundation, jumpers and protective relay package
- One (1) protective relay package for 69 kV circuit breaker 120
- Five (5) 69 kV switches 1201, 1203, 1229, 1231 and 1233
- One (1) 69 kV surge arrester SA-1
- One (1) 69 kV bus potential transformer PT-1
- One (1) auto transformer AUT-2 with associated surge arresters
- 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
- One (1) 138 kV circuit breaker 5100 including foundation, jumpers and protective relay package
- Three (3) 138 kV switches 5099, 5101 and 5103
- One (1) metering current transformer CT-4
- One (1) 138 kV surge arrester SA-5
- One (1) 138 kV bus potential transformer PT-3
- Two (2) station service SS-2 and SS-3
- 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:** SBEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.

Amendment No. 5



GLIDDEN SUBSTATION

FACILITY SCHEDULE NO. 14
Amendment No. 5

1. **Name:** Thorstenburg Switch Structure (deleted)

FACILITY SCHEDULE NO. 15
Amendment No. 5

1. **Name:** Waller Substation
2. **Facility Location:** The Waller Substation is located at 2980 13th St., Hempstead, Waller County, Texas 77445.
3. **Points of Interconnection:** There are seven (7) Points of Interconnection in the Waller Substation generally described as:
 - where the LCRA TSC jumper connects to the incoming 138 kV SBEC transmission line from Prairie View Substation at the dead end insulators on LCRA TSC's A-Frame dead end structure.
 - where the incoming distribution line attaches to the tubular bus between switch WR-11 and switch WR-13 at breaker WR-10.
 - where the jumper from breaker WR-10 connects to the four hole pad on switch WR-9.
 - where the jumper from breaker WR-10 connects to the four hole pad on switch WR-11.
 - where the incoming distribution line attaches to the tubular bus between switch WR-31 and switch WR-33 at breaker WR-30.
 - where the jumper from breaker WR-30 connects to the four hole pad on switch WR-29.
 - where the jumper from breaker WR-30 connects to the four hole pad on switch WR-31.
4. **Transformation Services Provided by LCRA TSC:** Yes
5. **Metering Services Provided by LCRA TSC:** Yes
6. **Delivery Voltage:** 12.5/138 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:**
SBEC owns:
 - The following transmission lines comprised of conductors, insulators, and connecting hardware:
 - Waller to Prairie View transmission line
 - Two (2) distribution circuit breakers WR-10 and WR-30 including jumpers and protective relay packages

- Underfrequency relay equipment
- One (1) RTU panel
- One (1) communications antenna, BCD-87010-25 Omni mounted at a height of 104' on LCRA TSC communications tower
- One (1) 19" communications rack on casters

LCRA TSC owns:

The Waller Substation including, but not limited to, the following items:

- 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
- One (1) 138 kV bus potential transformer PT-1
- One (1) 138 kV surge arrester SA-1
- One (1) circuit switcher CS-3085 with associated bypass and disconnect switches 3088 and 3084
- One (1) 138 kV circuit breaker 3070 including foundation, jumpers and protective relay package
- Five (5) 138 kV switches 3069, 3071, 3073, 3082 and 3087
- One (1) single phase current transformer CT-6
- One (1) current transformer CT-10
- One (1) power transformer T-1 with associated surge arresters
- One (1) total circuit breaker WR-20 with jumpers and protective relaying
- Three (3) distribution and total circuit breaker foundations
- All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus, bus potential transformer, metering current transformer and associated cabling
- Control house and battery
- Station service

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:**
 - SBEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.
 - SBEC's communication antenna will be installed and operated in accordance with the terms of the Lower Colorado River Authority Technical Review.

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