



Control Number: 35077



Item Number: 757

Addendum StartPage: 0

Project No. 35077

RECEIVED
2017 SEP 26 PM 4:13
PUBLIC UTILITY COMMISSION
FILING CLERK

Amendment No. 13

INTERCONNECTION AGREEMENT

Between

LCRA Transmission Services Corporation

and

Bluebonnet Electric Cooperative

August 1, 2017

757

**THIRTEENTH AMENDMENT TO
INTERCONNECTION AGREEMENT**

This Thirteenth Amendment (“Amendment”) is made and entered into this 1 day of August, 2017, between Bluebonnet Electric Cooperative (“BBEC”) and LCRA Transmission Services Corporation (“LCRA TSC”) collectively referred to hereinafter as the Parties.

WHEREAS, LCRA TSC and BBEC entered into that certain Interconnect Agreement executed November 17, 2008; as amended by that certain Amendment No. 1, executed as of October 13, 2009; as amended by that certain Amendment No. 2, executed as of January 13, 2011; as amended by that certain Amendment No. 3, executed as of October 26, 2011; as amended by that certain Amendment No. 4, executed as of January 31, 2012; as amended by that certain Amendment No. 5, executed as of April 19, 2013; as amended by that certain Amendment No. 6, executed as of June 17, 2013; as amended by that certain Amendment No. 7, executed as of March 4, 2014; as amended by that certain Amendment No. 8, executed as of November 18, 2014; as amended by that certain Amendment No. 9, executed as of June 4, 2015; as amended by that certain Amendment No. 10, executed as of August 9, 2016; as amended by that certain Amendment No. 11, executed as of February 23, 2017; as amended by that certain Amendment No. 12, executed as of March 20, 2017 (collectively, as amended, the “Agreement”);

WHEREAS, LCRA TSC will execute the Butler Circuit Breaker Addition project by adding a 3 breaker ring bus at Butler Substation;

WHEREAS, LCRA TSC will execute the FY18 Physical Security with the Colton Circuit Breaker Addition project at Colton Substation;

WHEREAS, LCRA TSC will execute the FY18 Physical Security project at Lockhart Substation;

WHEREAS, LCRA TSC will execute the FY18 Physical Security project at Luling City Substation;

WHEREAS, LCRA TSC will execute the FY18 Physical Security project at McCarty Lane Substation;

WHEREAS, LCRA TSC will execute the FY18 Physical Security project at Smithville Substation; and

WHEREAS, LCRA TSC will execute the FY18 Physical Security project and BBEC will install a distribution breaker in 12.5 kV Bay 4 at Webberville 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” is deleted in its entirety and the Exhibit “A” attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
2. Exhibit “A” attached to this Thirteenth Amendment will become effective upon

execution of this Thirteenth Amendment by the Parties.

3. Facility Schedule No. 6 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 6 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
4. Facility Schedule No. 6 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth Amendment by the Parties.
5. Facility Schedule No. 9 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 9 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
6. Facility Schedule No. 9 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth Amendment by the Parties.
7. Facility Schedule No. 16 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 16 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
8. Facility Schedule No. 16 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth Amendment by the Parties.
9. Facility Schedule No. 17 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 17 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
10. Facility Schedule No. 17 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth Amendment by the Parties.
11. Facility Schedule No. 21 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 21 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
12. Facility Schedule No. 21 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth Amendment by the Parties.
13. Facility Schedule No. 30 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 30 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
14. Facility Schedule No. 30 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth

Amendment by the Parties.

15. Facility Schedule No. 33 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 33 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.

16. Facility Schedule No. 33 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth 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.

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

BLUEBONNET ELECTRIC COOPERATIVE

LCRA TRANSMISSION SERVICES CORPORATION

By: Eric Kocian / Phillip Ellis

By: [Signature]

Name: Eric Kocian, P.E.

Name: Sergio Garza, P.E.

Title: Manager of Electric Operations and Engineering

Title: LCRA Vice President, Transmission Design and Protection

Date: August 1, 2017

Date: JULY 26, 2017



EXHIBIT A
Amendment No. 13

FACILITY SCHEDULE NO.	LOCATION OF POINT(S) OF INTERCONNECTION (# of Points)	INTERCONNECTION VOLTAGE (KV)	EFFECTIVE DATE OF INTERCONNECTION
1	Alum Creek (12)	12.5 kV	11/17/2008
2	Bastrop City (10)	12.5 kV	2/23/2017
3	Bastrop West (15)	12.5 kV	10/13/2009
4	Bluebonnet (2)	138 kV	01/13/2011
5	Brenham North (1)	138 kV	11/17/2008
6	Butler (2)	138 kV	Date of Amendment #13
7	Cedar Hill (9)	12.5 kV	11/17/2008
8	Chappell Hill (1)	138 kV	2/23/2017
9	Colton (9)	12.5 kV	Date of Amendment #13
10	Dale (8)	12.5 kV	8/9/2016
11	Lyle Wolz (7)	138 kV	8/9/2016
12	Fayetteville (1)	138 kV	11/17/2008
13	Giddings (15)	12.5 kV	2/23/2017
14	Harris Branch (18)	24.9 kV	10/13/2009
15	Lexington (7)	12.5 kV & 138 kV	01/13/2011
16	Lockhart (9)	12.5 kV	Date of Amendment #13
17	Luling City (6)	12.5 kV	Date of Amendment #13
18	Luling Magnolia (6)	12.5 kV	11/17/2008
19	Magnolia Mercer (6)	12.5 kV	8/9/2016
20	Manor (1)	138 kV	2/23/2017
21	McCarty Lane East (9)	12.5 kV	Date of Amendment #13
22	Mendoza (9)	12.5 kV	8/9/2016
23	Paige (1)	138 kV	06/04/2015
24	Pisek (1)	138 kV	11/17/2008
25	Plum (4)	12.5 kV	10/26/2011
26	Red Rock (2)	138 kV	6/4/2015
27	Redwood (4)	12.5 kV	11/17/2008
28	Robert Brown Jr. (1)	69 kV	06/04/2015
29	Salem (1)	138 kV	11/17/2008
30	Smithville (10)	69 kV & 12.5 kV	Date of Amendment #13
31	Swiftex (12)	12.5 kV	11/17/2008
32	Warda (6)	24.9 kV	06/04/2015
33	Webberville (15)	24.9 kV	Date of Amendment #13
34	Welcome (1)	138 kV	11/17/2008
35	Wolf Lane (2)	138 kV	01/13/2011
36	Pooley Road (6)	12.5 kV	8/9/2016
37	Shadow Glen (1)	138 kV	2/23/2017
38	Tahitian Village (1)	138 kV	2/23/2017
39	Beback (1)	138 kV	01/13/2011

EXHIBIT A-(page 2)
Amendment No. 13

40	Wyldwood (1)	138 kV	8/9/2016
41	Clear Fork (1)	69 kV & 12.5 kV	04/19/2013
42	Seawillow (0)	Terminated	2/23/2017
43	Lincoln (1)	138 kV	3/20/2017
44			

-----The remainder of this page has intentionally been left blank-----

FACILITY SCHEDULE NO. 6

Amendment No. 13

1. **Name:** Butler Substation
2. **Facility Location:** The Butler Substation is located at 652 Pleasant Grove Rd. Elgin, Bastrop County, Texas 78621.
3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Butler Substation generally described as:
 - where the LCRA TSC 138 kV bus attaches to the four hole pad on BBEC switch 4034.
 - where the LCRA TSC 138 kV bus attaches to the four hole pad on BBEC switch 28618.
4. **Transformation Services Provided by LCRA TSC:** No
5. **Metering Services Provided by LCRA TSC:** Yes, per Wholesale Metering Services Agreement between the Parties.
6. **Delivery Voltage:** 138 kV
7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformer is located inside transformer T1. The bus potential transformer is located on the 24.9 kV operating bus.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

BBEC owns:

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

 - One (1) circuit switcher CS4035 with foundation, protective relaying and associated bypass switch 4037
 - One (1) 138 kV disconnect switch 4034
 - One (1) 138 kV mobile disconnect switch 28618
 - One (1) power transformers T1 with foundation, jumpers, protective relaying and associated surge arresters
 - 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 A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus, bus potential transformer and associated cabling
 - One (1) modulation transformers MTU1 and associated fuse BU1F3
 - One (1) control house (24' X 27') with battery bank, battery charger and appurtenances
 - Two (2) station service SS1 and SS2 with fuses F2 and F4

- Substation property, ground grid, gravel, fencing and appurtenances

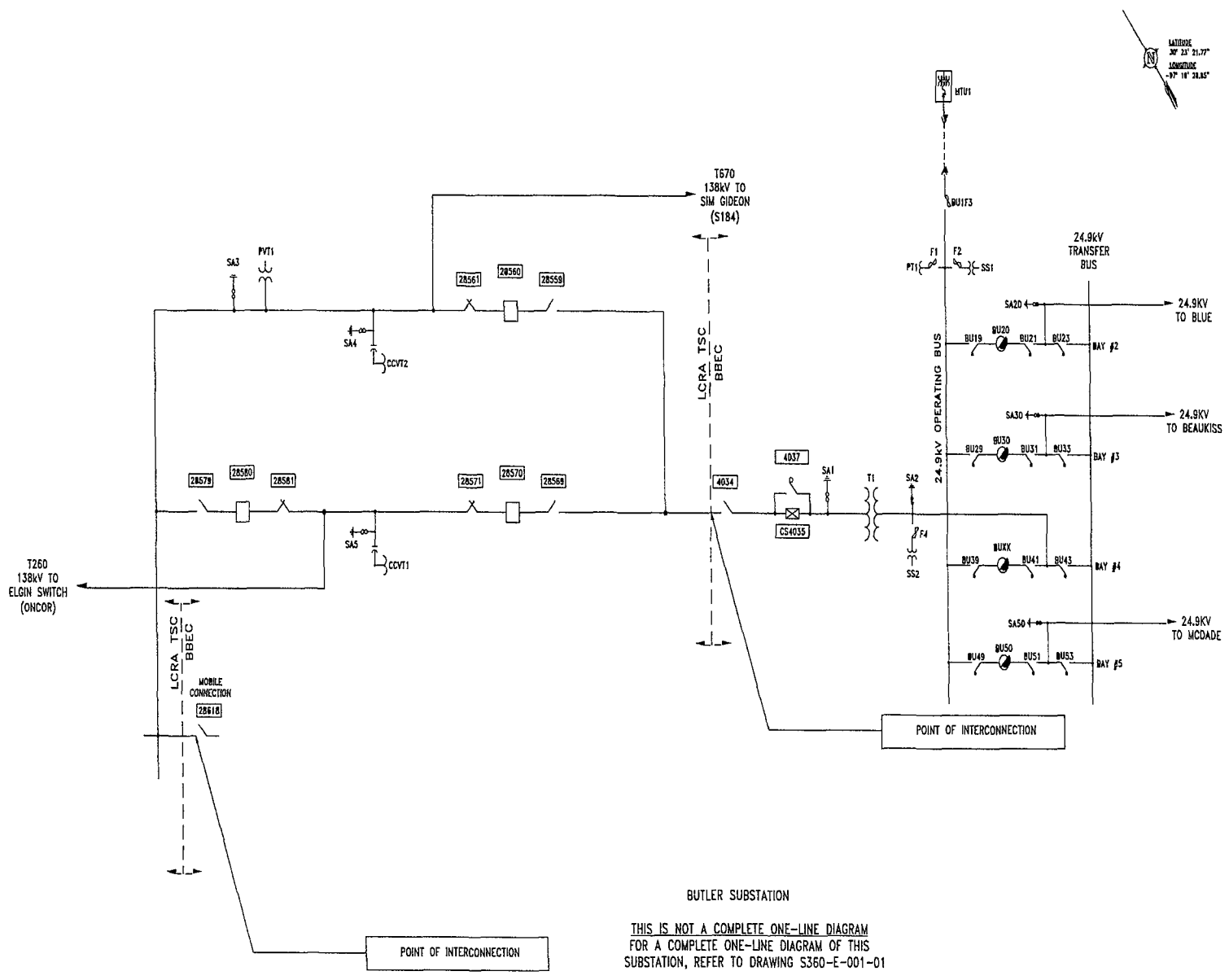
LCRA TSC owns:

- Two (2) 138 kV A-frame structures, foundations, insulators and jumpers
- 138 kV ring bus including structures, foundations, insulators, connecting hardware and jumpers
- Three (3) 138 kV circuit breakers 28560, 28570 and 28580 with foundations, jumpers and protective relaying
- Six (6) 138 kV disconnect switches 28559, 28561, 28569, 28571, 28579 and 28581
- Two (2) coupling capacitor voltage transformers CCVT1 and CCVT2
- Three (3) 138 kV surge arresters SA3, SA4 and SA5
- One (1) 138 kV transformer bus differential and breaker failure relaying scheme
- One (1) power voltage transformer PVT1
- One (1) underfrequency relay panel
- One (1) control house (24' X 21') with battery bank, battery charger and appurtenances

- 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:**
- BBEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.
 - BBEC will supply and allow LCRA TSC use of its 24.9 kV bus potential transformer PT1 for metering.
 - BBEC will supply and allow LCRA TSC use of transformer T1 metering and relaying bushing current transformers for its 24.9 kV metering and 138 kV transformer bus differential relaying scheme.
 - LCRA TSC will provide tripping and close inhibit contacts from its 138 kV transformer bus differential & breaker failure relaying panel to BBEC's circuit switcher CS4035 relaying panel.
 - BBEC will provide breaker failure initiate contacts from its circuit switcher CS4035 relaying panel to LCRA TSC's 138 kV transformer bus differential & breaker failure relaying panel.
 - LCRA TSC and BBEC shall coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guidelines.

BUTLER ONE-LINE DIAGRAM

Amendment No. 13



BUTLER SUBSTATION
 THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
 FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
 SUBSTATION, REFER TO DRAWING S360-E-001-01

FACILITY SCHEDULE NO. 9

Amendment No. 13

1. **Name:** Colton Substation
2. **Facility Location:** The Colton Substation is located at 8116 FM 9734, Austin, Travis County, Texas 78719.
3. **Points of Interconnection:** There are nine (9) Points of Interconnection in the Colton Substation generally described as:
 - where the incoming distribution line connects to the tubular bus between switches CL31 and CL33 at breaker CL30.
 - where the jumper from breaker CL30 connects to the 4 hole pad on switch CL29.
 - where the jumper from breaker CL30 connects to the 4 hole pad on switch CL31.
 - where the incoming distribution line connects to the tubular bus between switches CL41 and CL43 at breaker CL40.
 - where the jumper from breaker CL40 connects to the 4 hole pad on switch CL39.
 - where the jumper from breaker CL40 connects to the 4 hole pad on switch CL41.
 - where the incoming distribution line connects to the tubular bus between switches CL101 and CL103 at breaker CL100.
 - where the jumper from breaker CL100 connects to the 4 hole pad on switch CL99.
 - where the jumper from breaker CL100 connects to the 4 hole pad on switch CL101.
4. **Transformation Services Provided by LCRA TSC:** Yes, per Transformation Service Agreement between the Parties.
5. **Metering Services Provided by LCRA TSC:** Yes, per Wholesale Metering Service Agreement between the Parties.
6. **Delivery Voltage:** 12.5 kV
7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformer is located inside transformer T1. The bus potential transformer is located on the 12.5 kV operating bus for T1.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**
BBEC owns:
 - Three (3) distribution circuits including dead-end insulators that attach to the dead-end structure, conductor, and hardware
 - Three (3) distribution circuit breakers CL30, CL40, and CL100 including jumpers and protective relaying
 - One (1) 12.5 kV surge arrester SA11
 - Two (2) distribution circuit breaker foundations
 - One (1) modulation transformer MTU1 and associated surge arrester SA14 and fuse CL1-F5

LCRA TSC owns:

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

- One (1) power transformer T1 with associated surge arresters, foundation, jumpers and protective relaying
- One (1) circuit switcher CS8745 with associated bypass switch 8747, jumpers, foundation and protective relaying
- Six (6) 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
- Mobile transformer connection in bay 11 with switches CL149 and CL153
- One (1) low voltage switch CL13 with interrupter
- One (1) underfrequency relay panel
- One (1) station service SS1 with fuse F1
- One (1) control house (24'X 39') with batteries, battery charger and appurtenances
- Substation property, ground grid, gravel, fencing and other appurtenances

- 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:

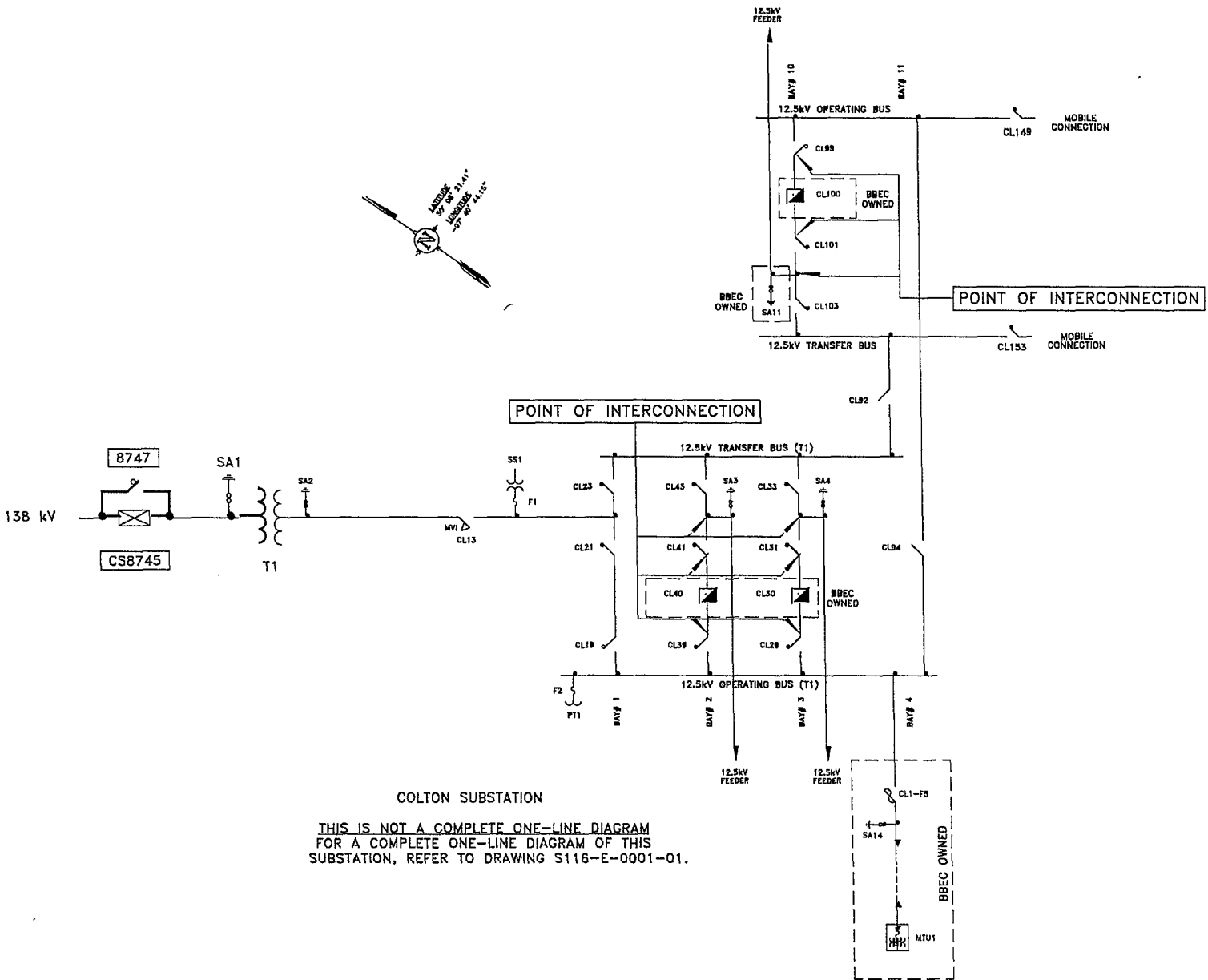
- LCRA TSC will share access to the substation by allowing BBEC to place a hardened lock in series with LCRA TSC's lock in the chain securing the gate.
- LCRA TSC will share access to the control house. Access is obtained by calling LCRA TSC's System Operations Control Center using the intercom at the door of the control house.
- LCRA TSC will provide BBEC access to 125 VDC and 120 VAC power. Circuits must have over current protection devices (OCPD) sized according to NEC standards.
- LCRA TSC will provide BBEC with floor space (as necessary) in its control house for the installation of BBEC required relay panel boards and equipment.
- LCRA TSC and BBEC shall coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guidelines.
- Colton Substation access and physical security will be in accordance with LCRA TSC standards which includes:
 - An 8' tall ½" mesh security fence topped with 1'6" concertina wire
 - Intrusion detection
 - Perimeter lighting
 - Hardened chains and locks at access points
 - Yard and control house surveillance (cameras)
 - Card reader control house access with intercom to SOCC
 - RTU/Security cabinet card access only

- No control house windows (houses with existing windows will have them blocked)
- 120 db sirens and flashing lights inside and outside of control house

----The remainder of this page has intentionally been left blank----

COLTON ONE-LINE DIAGRAM

Amendment No.13



COLTON SUBSTATION
 THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
 FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
 SUBSTATION, REFER TO DRAWING S116-E-0001-01.

FACILITY SCHEDULE NO. 16

Amendment No. 13

1. **Name:** Lockhart Substation
2. **Facility Location:** Lockhart Substation is located at 1000 East FM 20, Lockhart, Caldwell County, Texas 78644.
3. **Points of Interconnection:** There are nine (9) Points of Interconnection in Lockhart Substation generally described as:
 - where BBEC's pipe bus from BBEC's URD riser connects to the tubular bus between switches LK101 and LK103 at breaker LK100.
 - where the jumper from breaker LK100, passing through CT10, connects to the 4 hole pad on switch LK99.
 - where the jumper from breaker LK100 connects to the 4 hole pad on switch LK101.
 - where BBEC's pipe bus from BBEC's URD riser connects to the tubular bus between switches LK131 and LK133 at breaker LK130.
 - where the jumper from breaker LK130, passing through CT13 connects to the 4 hole pad on switch LK129.
 - where the jumper from breaker LK130 connects to the 4 hole pad on switch LK131.
 - where BBEC's pipe bus from BBEC's URD riser connects to the tubular bus between switches LK141 and LK143 at breaker LK140.
 - where the jumper from breaker LK140, passing through CT14, connects to the 4 hole pad on switch LK139.
 - where the jumper from breaker LK140 connects to the 4 hole pad on switch LK141.
4. **Transformation Services Provided by LCRA TSC:** Yes, per Transformation Service Agreement between the Parties.
5. **Metering Services Provided by LCRA TSC:** Yes, per Wholesale Metering Services Agreement between the Parties.
6. **Delivery Voltage:** 12.5 kV
7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformers for T1 are located inside T1 and in each distribution 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:**
BBEC owns:
 - Three (3) distribution circuits including URD riser structures, foundations and pipe bus from riser to the Point of Interconnection.
 - Three (3) distribution circuit breakers LK100, LK130, LK140 including jumpers, protective relay packages and foundations
 - One (1) modulation transformer MTU1 with associated surge arrester SA13 and fuse LK1-F5

- One (1) portable control house

LCRA TSC owns:

Lockhart Substation including, but not limited to, the following items:

- One (1) power transformer T1 with associated surge arresters, foundation, jumpers and protective relaying
- One (1) circuit switcher CS3365 with foundation, protective relaying and associated disconnect and bypass switches 3364 and 3367
- One (1) total circuit breaker LK110 with jumpers, protective relaying and foundation
- Seven (7) 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
- One (1) underfrequency relay panel (disabled)
- One (1) control house, battery bank and appurtenances
- One (1) station service SS1 with fuse F2
- Substation property, ground grid, gravel, fencing and other appurtenances

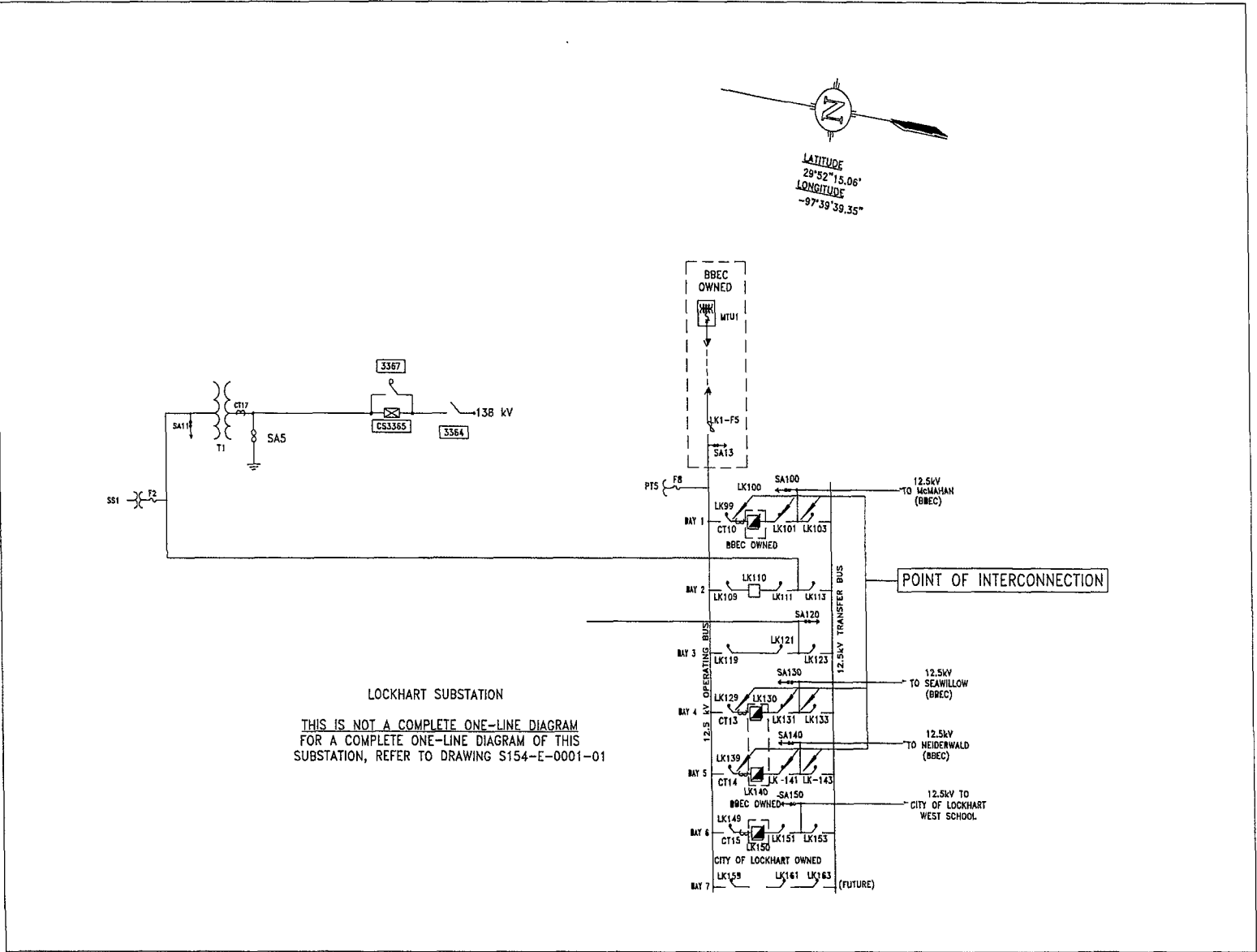
- 10. Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.
- 11. Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.
- 12. Other Terms and Conditions:**
- LCRA TSC will share access to the substation by allowing BBEC to place a hardened lock in series with LCRA TSC's lock in the chain securing the gate.
 - LCRA TSC will share access to the control house. Access is obtained by calling LCRA TSC's System Operations Control Center using the intercom at the door of the control house.
 - LCRA TSC will provide BBEC access to 125 VDC and 120 VAC power. Circuits must have over current protection devices (OCPD) sized according to NEC standards.
 - LCRA TSC will provide BBEC with floor space (as necessary) in its control houses for the installation of BBEC required relay panel boards and equipment.
 - LCRA TSC and BBEC shall coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guidelines.
 - Lockhart Substation access and physical security will be in accordance with LCRA TSC standards which includes:
 - An 8' tall ½" mesh security fence topped with 1'6" concertina wire
 - Intrusion detection
 - Perimeter lighting
 - Hardened chains and locks at access points
 - Yard and control house surveillance (cameras)
 - Card reader control house access with intercom to SOCC

- RTU/Security cabinet card access only
- No control house windows (houses with existing windows will have them blocked)
- 120 db sirens and flashing lights inside and outside of control house

-----The remainder of this page has intentionally been left blank-----

LOCKHART ONE-LINE DIAGRAM

Amendment No. 13



LOCKHART SUBSTATION
 THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
 FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
 SUBSTATION, REFER TO DRAWING S154-E-0001-01

FACILITY SCHEDULE NO. 17
Amendment No. 13

1. **Name:** Luling City Substation
2. **Facility Location:** The Luling City Substation is located at 1795 North Hackberry Street, Luling, Caldwell County, Texas 78648.
3. **Points of Interconnection:** There are six (6) Points of Interconnection in the Luling City Substation generally described as:
 - where the incoming distribution line connects to the tubular bus between switches LC101 and LC103 at breaker LC100.
 - where the jumper from breaker LC100, passing through CT17, connects to the 4 hole pad on switch LC99.
 - where the jumper from breaker LC100 connects to the 4 hole pad on switch LC101.
 - where the incoming distribution line connects to the tubular bus between switches LC111 and LC113 at breaker LC110.
 - where the jumper from breaker LC110, passing through CT18, connects to the 4 hole pad on switch LC109.
 - where the jumper from breaker LC110 connects to the 4 hole pad on switch LC111.
4. **Transformation Services Provided by LCRA TSC:** Yes, per Transformation Service Agreement between the Parties.
5. **Metering Services Provided by LCRA TSC:** Yes, per Wholesale Metering Services Agreement between the Parties.
6. **Delivery Voltage:** 12.5 kV
7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformers for T3 are located in the total bay and in each distribution 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:**
BBEC owns:
 - Two (2) distribution circuits including dead end insulators that attach to the dead end structure, conductors and hardware
 - Two (2) distribution circuit breakers LC100 and LC110 including jumpers, protective relay packages and foundations
 - One (1) modulation transformer MTU1 and associated surge arrester SA28 and fuse F12

LCRA TSC owns:

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

- One (1) circuit switcher CS3675 with associated bypass and disconnect switch 3674 and 3677
- One (1) power transformer T3 with associated surge arresters
- One (1) single phase T3 current transformer CT23
- One (1) transformer bus disconnect switch LC85
- Five (5) 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
- One (1) underfrequency relay panel
- One (1) control house (24' X 33') with battery bank, battery charger and appurtenances
- One (1) telecom house (12' X 21')
- One (1) station service SS4

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:

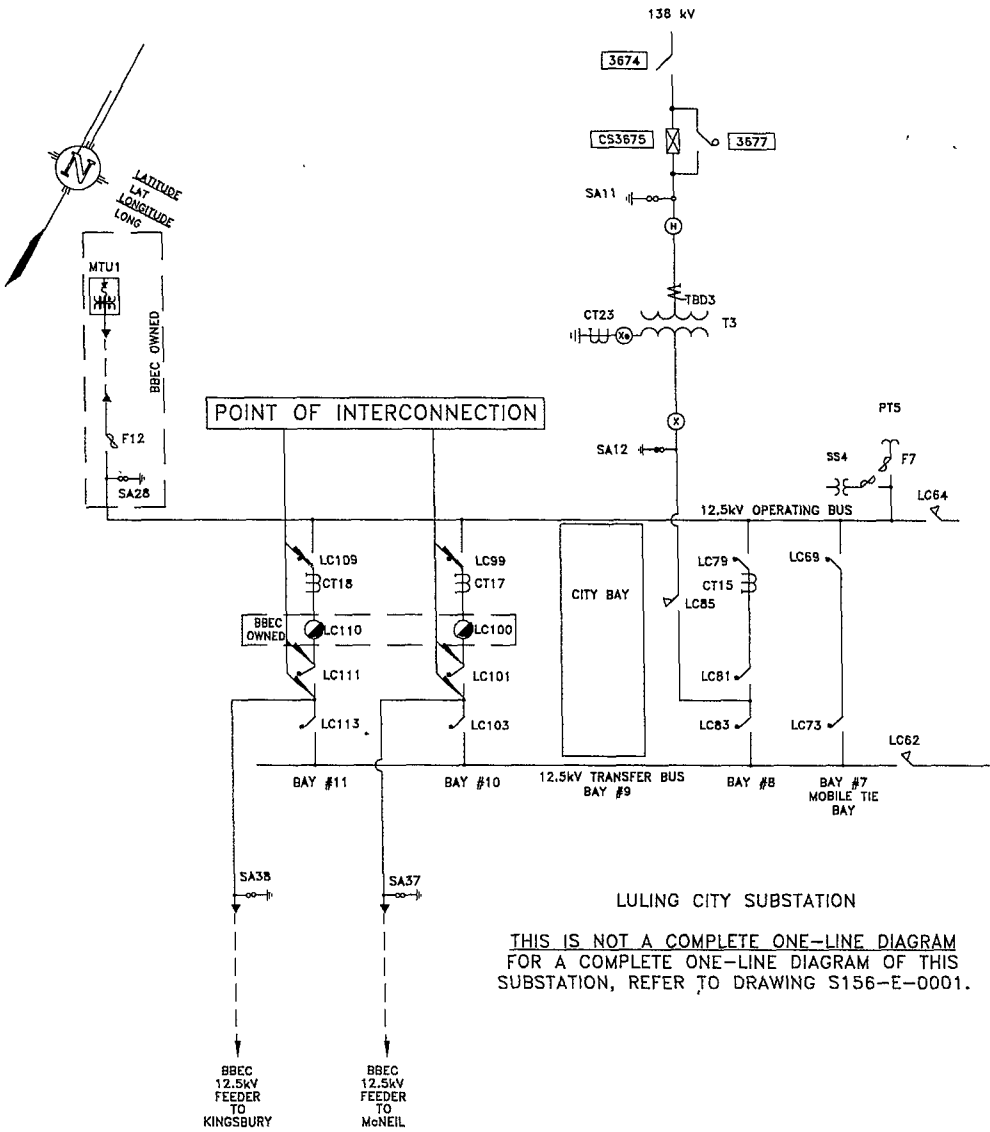
- LCRA TSC will share access to the substation by allowing BBEC to place a hardened lock in series with LCRA TSC's lock in the chain securing the gate.
- LCRA TSC will share access to the control house. Access is obtained by calling LCRA TSC's System Operations Control Center using the intercom at the door of the control house.
- LCRA TSC will provide BBEC access to 125 VDC and 120 VAC power. Circuits must have over current protection devices (OCPD) sized according to NEC standards.
- LCRA TSC will provide BBEC with floor space (as necessary) in its control houses for the installation of BBEC required relay panel boards and equipment.
- LCRA TSC and BBEC shall coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guidelines.
- Luling City Substation access and physical security will be in accordance with LCRA TSC standards which includes:
 - An 8' tall ½" mesh security fence topped with 1'6" concertina wire
 - Intrusion detection
 - Perimeter lighting
 - Hardened chains and locks at access points
 - Yard and control house surveillance (cameras)
 - Card reader control house access with intercom to SOCC
 - RTU/Security cabinet card access only
 - No control house windows (houses with existing windows will have them blocked)

- o 120 db sirens and flashing lights inside and outside of control house

----The remainder of this page has intentionally been left blank----

LULING CITY ONE-LINE DIAGRAM

Amendment No. 13



FACILITY SCHEDULE NO. 21
Amendment No. 13

1. **Name:** McCarty Lane East Substation
2. **Facility Location:** The McCarty Lane East Substation is located at 1502 E. McCarty Lane, San Marcos, Hays County, Texas 78666.
3. **Points of Interconnection:** There are nine (9) Points of Interconnection in the McCarty Lane East Substation generally described as:
 - where the incoming distribution line connects to the tubular bus between switches ML51 and ML53 at breaker M50.
 - where the jumper from breaker ML50, passing through CT9, connects to the 4 hole pad on switch ML49.
 - where the jumper from breaker ML50 connects to the 4 hole pad on switch ML51.
 - where the incoming distribution line connects to the tubular bus between switches ML61 and ML63 at breaker ML60.
 - where the jumper from breaker ML60, passing through CT7 connects to the 4 hole pad on switch ML59.
 - where the jumper from breaker ML60 connects to the 4 hole pad on switch ML61.
 - where the incoming distribution line connects to the tubular bus between switches ML71 and ML73 at breaker ML70.
 - where the jumper from breaker ML70, passing through CT8, connects to the 4 hole pad on switch ML69.
 - where the jumper from breaker ML70 connects to the 4 hole pad on switch ML71.
4. **Transformation Services Provided by LCRA TSC:** Yes, per Transformation Service Agreement between the Parties.
5. **Metering Services Provided by LCRA TSC:** Yes, per Wholesale Metering Service Agreement between the Parties.
6. **Delivery Voltage:** 12.5 kV
7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. The metering current transformers for T1 are located inside T1 and in each distribution 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:**
BBEC owns:
 - Three (3) distribution circuits including dead end insulators that attach to the dead end structure, conductors and hardware
 - Three (3) distribution circuit breakers ML50, ML60, ML70 including jumpers and protective relay packages
 - Four (4) distribution circuit breaker foundations in bays 1,5,6 and 7

- One (1) modulation transformer MTU1 with associated surge arrester SA19 and fuse ML1F2

LCRA TSC owns:

The McCarty Lane East Substation including, but not limited to, the following items:

- One (1) power transformer T1 with associated surge arresters, foundation, jumpers and protective relaying
- One (1) circuit breaker 12430 and associated switch 9654 with foundations, jumpers and protective relaying
- Seven (7) 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
- One (1) control house (36' X 40') with batteries, battery charger and appurtenances
- One (1) station service SS3 with fuse F1
- One (1) meter package
- Substation property, ground grid, gravel, fencing and other appurtenances

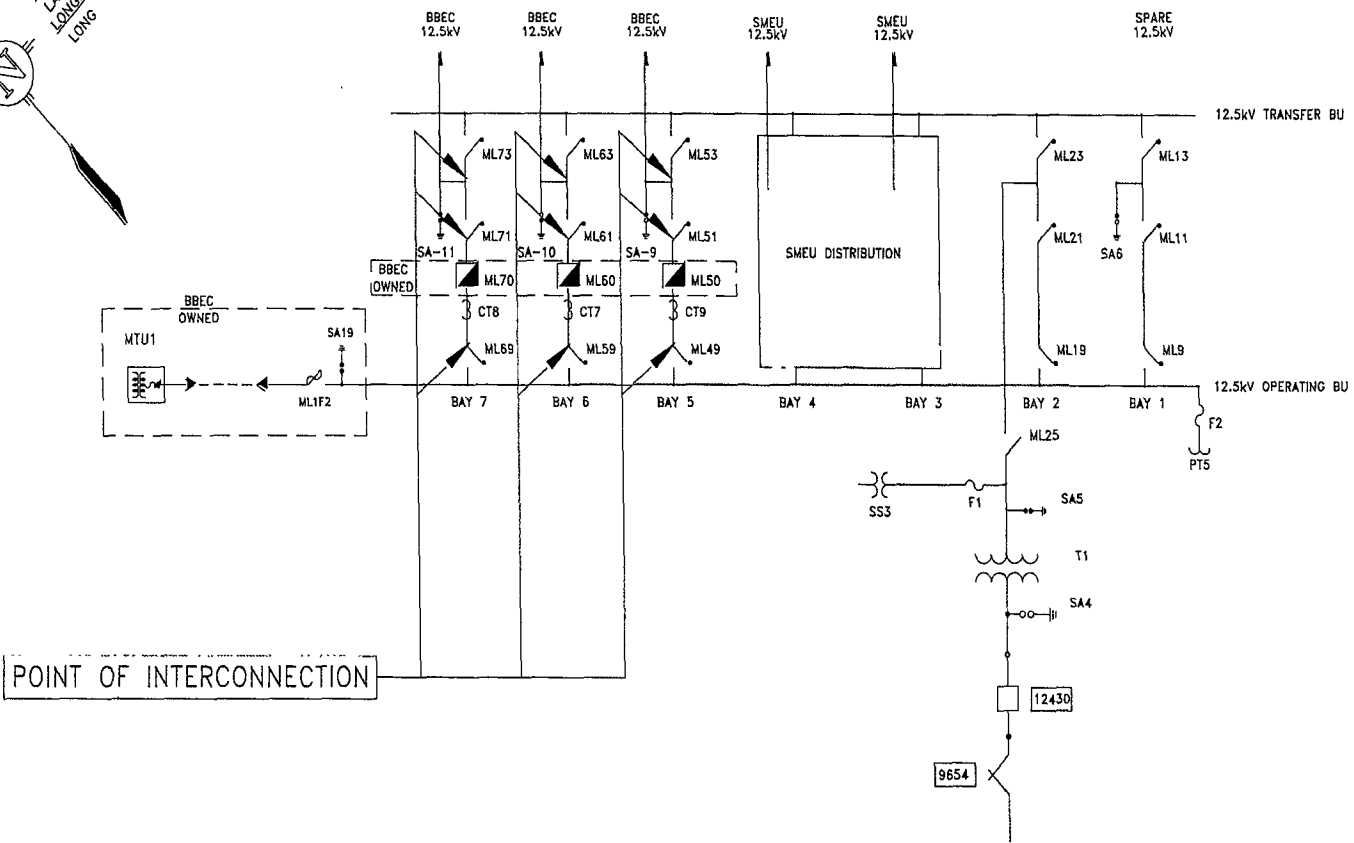
- 10. Operational Responsibilities of Each Party:** Each Party is responsible for the operation of the equipment it owns.
- 11. Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.
- 12. Other Terms and Conditions:**
- LCRA TSC will share access to the substation by allowing BBEC to place a hardened lock in series with LCRA TSC's lock in the chain securing the gate.
 - LCRA TSC will share access to the control house. Access is obtained by calling LCRA TSC's System Operations Control Center using the intercom at the door of the control house.
 - LCRA TSC will provide BBEC access to 125 VDC and 120 VAC power. Circuits must have over current protection devices (OCPD) sized according to NEC standards.
 - LCRA TSC will provide BBEC with floor space (as necessary) in its control house for the installation of BBEC required relay panel boards and equipment.
 - LCRA TSC and BBEC shall coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guidelines.
 - McCarty Lane East Substation access and physical security will be in accordance with LCRA TSC standards which includes:
 - An 8' tall ½" mesh security fence topped with 1'6" concertina wire
 - Intrusion detection
 - Perimeter lighting
 - Hardened chains and locks at access points
 - Yard and control house surveillance (cameras)
 - Card reader control house access with intercom to SOCC
 - RTU/Security cabinet card access only

- No control house windows (houses with existing windows will have them blocked)
- 120 db sirens and flashing lights inside and outside of control house

-----The remainder of this page has intentionally been left blank-----

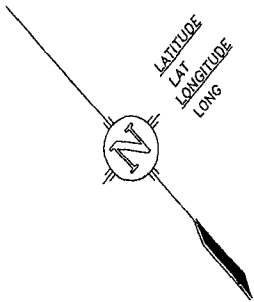
MCCARTY LANE EAST ONE-LINE DIAGRAM

Amendment No. 13



MCCARTY LANE EAST SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING S215-E-0001-01.



FACILITY SCHEDULE NO. 30
Amendment No. 13

1. **Name:** Smithville Substation
2. **Facility Location:** The Smithville Substation is located at 196 American Legion Road, Smithville, Bastrop County, Texas 78957.
3. **Points of Interconnection:** There are ten (10) Points of Interconnection in the Smithville Substation generally described as:
 - where the incoming 69 kV BBEC transmission line from Rosanky terminates at the dead end structure in the substation.
 - where the incoming distribution line connects to the tubular bus between switches SL61 and SL63 at breaker SL60.
 - where the jumper from breaker SL60, passing through CT8, connects to the 4 hole pad on switch SL59.
 - where the jumper from breaker SL60 connects to the 4 hole pad on switch SL61.
 - where the incoming distribution line connects to the tubular bus between switches SL81 and SL83 at breaker SL80.
 - where the jumper from breaker SL80, passing through CT10, connects to the 4 hole pad on switch SL79.
 - where the jumper from breaker SL80 connects to the 4 hole pad on switch SL81.
 - where the incoming distribution line connects to the tubular bus between switches SL101 and SL103 at breaker SL100.
 - where the jumper from breaker SL100, passing through CT9, connects to the 4 hole pad on switch SL99.
 - where the jumper from breaker SL100 connects to the 4 hole pad on switch SL101.
4. **Transformation Services Provided by LCRA TSC:** Yes, per Transformation Service Agreement between the Parties.
5. **Metering Services Provided by LCRA TSC:** Yes, per Wholesale Metering Service Agreement between the Parties.
6. **Delivery Voltage:** 69 kV and 12.5 kV
7. **Metered Voltage and Location:** The metering voltage is 12.5 kV. Metering current transformers are located on the inside T2 and in each distribution bay. The bus potential transformer is PT2 on the 12.5 kV operating bus for T2.
8. **One Line Diagram Attached:** Yes

9. Description of Facilities Owned by Each Party:

BBEC owns:

- The following transmission line comprised of conductors, insulators, and connecting hardware:
 - Smithville to Rosanky 69 kV transmission line
- Three (3) distribution circuits including dead end insulators that attach to the dead end structure, conductors and hardware
- Three (3) distribution circuit breakers SL60, SL80 and SL100 including jumpers, protective relay packages and foundations
- One (1) modulation transformer MTU1 and associated surge arrester SA26 and fuse F10

LCRA TSC owns:

The Smithville Substation including but not limited to the following items:

- Line protection equipment for BBEC owned Smithville to Rosanky transmission line
- 138 kV dead-end lattice structure, foundations, insulators and jumpers
- 138 kV operating and transfer bus including structures, insulators, hardware, foundations and jumpers
- One (1) power transformer T2 with associated surge arresters, foundation, jumpers and protective relaying
- One (1) circuit switcher CS6015 and associated bypass switch 6012
- One (1) 138 kV circuit breaker 6000 including jumpers and protective relay package
- Five (5) 138 kV disconnect switches 5999, 6001, 6003, 6014 and 6017
- One (1) 138 kV bus potential transformer PT5
- One (1) 138 kV surge arrester SA14
- One (1) 69 kV box structure including insulators, hardware, foundations and jumpers
- One (1) auto transformer AT3 with associated surge arresters, foundation, jumpers and protective relaying
- One (1) 69 kV surge arrester SA15
- One (1) 69 kV bus potential transformer PT6
- One (1) 69 kV current transformer CT7
- One (1) 69 kV mobile transformer connection
- One (1) 69 kV circuit breaker 6030 including jumpers and protective relay packages
- Seven (7) 69 kV disconnect switches 6026, 6027, 6028, 6029, 6031, 6033 and 6043
- Four (4) distribution and total bays including A-frames, trusses, insulators, disconnect switches (bays 4 thru 7), surge arresters, bus potential transformer, current metering transformers and associated cabling
- One (1) total breaker SL70 including jumpers and protective relay package and foundation
- Underfrequency relay panel
- One (1) control house (24' X 39') with batteries, battery charger and appurtenances

- One (1) storage building (18' X 22')
- One (1) station service SS2 with fuse F5
- One (1) metering package
- Substation property, ground grid, gravel, fencing and other appurtenances

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.

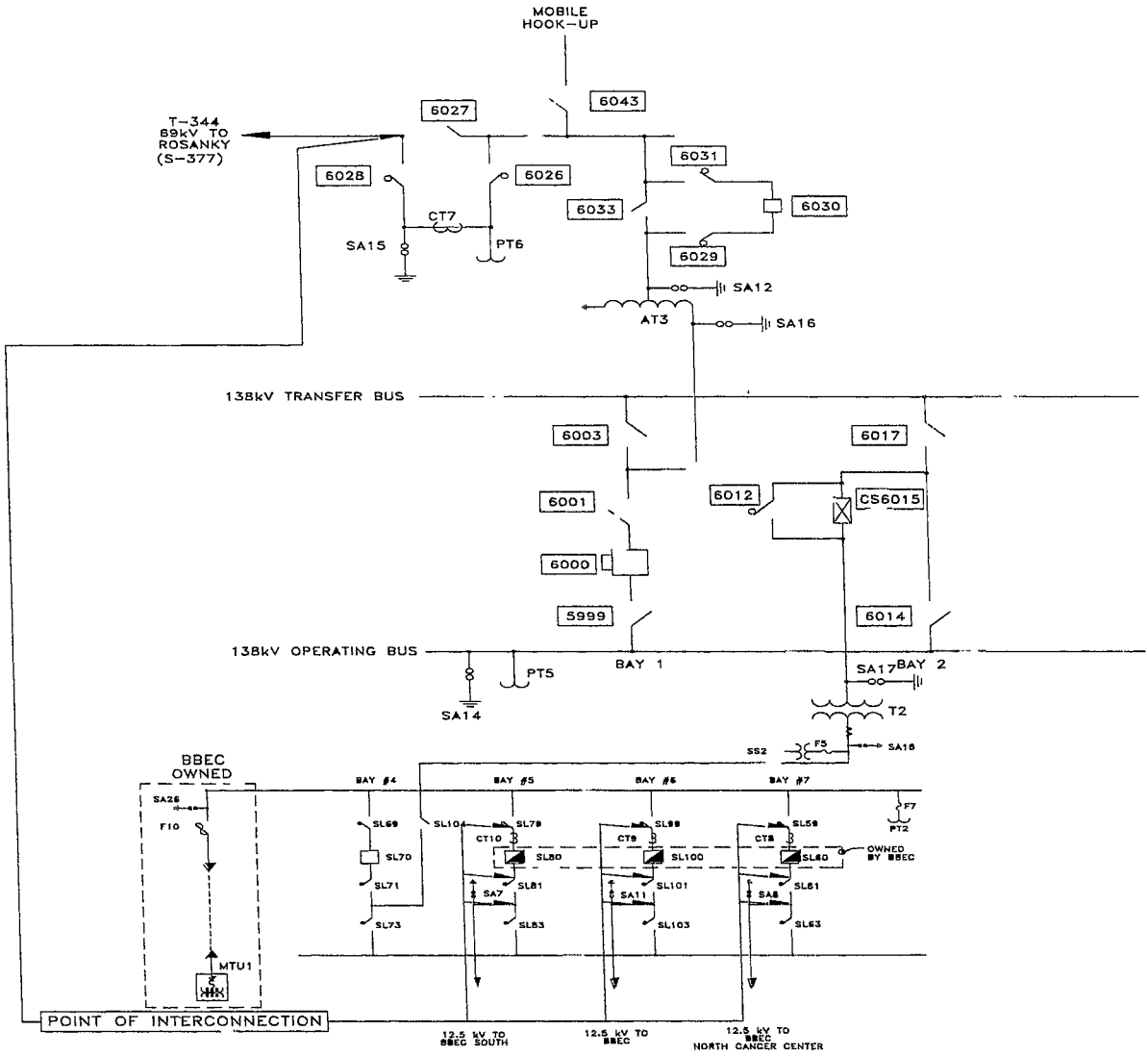
12. **Other Terms and Conditions:**

- LCRA TSC will share access to the substation by allowing BBEC to place a hardened lock in series with LCRA TSC's lock in the chain securing the gate.
- LCRA TSC will share access to the control house. Access is obtained by calling LCRA TSC's System Operations Control Center using the intercom at the door of the control house.
- LCRA TSC will provide BBEC access to 125 VDC and 120 VAC power. Circuits must have over current protection devices (OCPD) sized according to NEC standards.
- LCRA TSC will provide BBEC with floor space (as necessary) in its control houses for the installation of BBEC required relay panel boards and equipment.
- LCRA TSC and BBEC shall coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guidelines.
- Smithville Substation access and physical security will be in accordance with LCRA TSC standards which includes:
 - An 8' tall ½" mesh security fence topped with 1'6" concertina wire
 - Intrusion detection
 - Perimeter lighting
 - Hardened chains and locks at access points
 - Yard and control house surveillance (cameras)
 - Card reader control house access with intercom to SOCC
 - RTU/Security cabinet card access only
 - No control house windows (houses with existing windows will have them blocked)
 - 120 db sirens and flashing lights inside and outside of control house

-----The remainder of this page has intentionally been left blank-----

SMITHVILLE ONE-LINE DIAGRAM

Amendment No. 13



SMITHVILLE SUBSTATION
 THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
 FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
 SUBSTATION, REFER TO DRAWING S185-E-0001-01.

FACILITY SCHEDULE NO. 33
Amendment No. 11

1. **Name:** Webberville Substation
2. **Facility Location:** The Webberville Substation is located at 400 Webberville Church Road, Manor, Travis County, Texas 78653.
3. **Points of Interconnection:** There are fifteen (15) Points of Interconnection in the Webberville Substation generally described as:
 - where the incoming distribution line connects to the tubular bus between switches WV21 and WV23 at breaker WV20.
 - where the jumper from breaker WV20 connects to the 4 hole pad on switch WV19.
 - where the jumper from breaker WV20 connects to the 4 hole pad on switch WV21.
 - where the incoming distribution line connects to the tubular bus between switches WV31 and WV33 at breaker WV30.
 - where the jumper from breaker WV30 connects to the 4 hole pad on switch WV29.
 - where the jumper from breaker WV30 connects to the 4 hole pad on switch WV31.
 - where the incoming distribution line connects to the tubular bus between switches WV41 and WV43 at breaker WV40.
 - where the jumper from breaker WV40 connects to the 4 hole pad on switch WV39.
 - where the jumper from breaker WV40 connects to the 4 hole pad on switch WV41.
 - where the incoming distribution line connects to the tubular bus between switches WV71 and WV73 at breaker WV70.
 - where the jumper from breaker WV70 connects to the 4 hole pad on switch WV69.
 - where the jumper from breaker WV70 connects to the 4 hole pad on switch WV71.
 - where the incoming distribution line connects to the tubular bus between switches WV81 and WV83 at breaker WV80.
 - where the jumper from breaker WV80 connects to the 4 hole pad on switch WV79.
 - where the jumper from breaker W80 connects to the 4 hole pad on switch WV81.
4. **Transformation Services Provided by LCRA TSC:** Yes, per Transformation Service Agreement between the Parties
5. **Metering Services Provided by LCRA TSC:** Yes, per Wholesale Metering Service Agreement between the Parties
6. **Delivery Voltage:** 24.9 kV
7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformer is located inside T1. The bus potential transformer is located on the 24.9 kV operating bus.
8. **One Line Diagram Attached:** Yes

9. Description of Facilities Owned by Each Party:

BBEC owns:

- Five (5) distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
- Five (5) distribution circuit breakers WV20, WV30, WV40, WV70 and WV80 including jumpers and protective relay packages
- Five (5) distribution circuit breaker foundations (bays 2,3,4,7,and 8)
- One (1) modulation transformer MTU1 and associated surge arrester and fuse

LCRA TSC owns:

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

- One (1) circuit breaker 10670 with foundation, jumpers and protective relaying
- One (1) power transformer T1 with associated surge arresters
- Eight (8) distribution and total bays including A-frames, trusses, insulators, disconnect switches, interrupter, surge arresters, 24.9 kV operating and transfer bus, bus potential transformer and associated cabling
- Underfrequency relay panel
- Control house and battery bank
- Station service
- One (1) meter package
- Substation property, ground grid, gravel, fencing and other appurtenances

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:

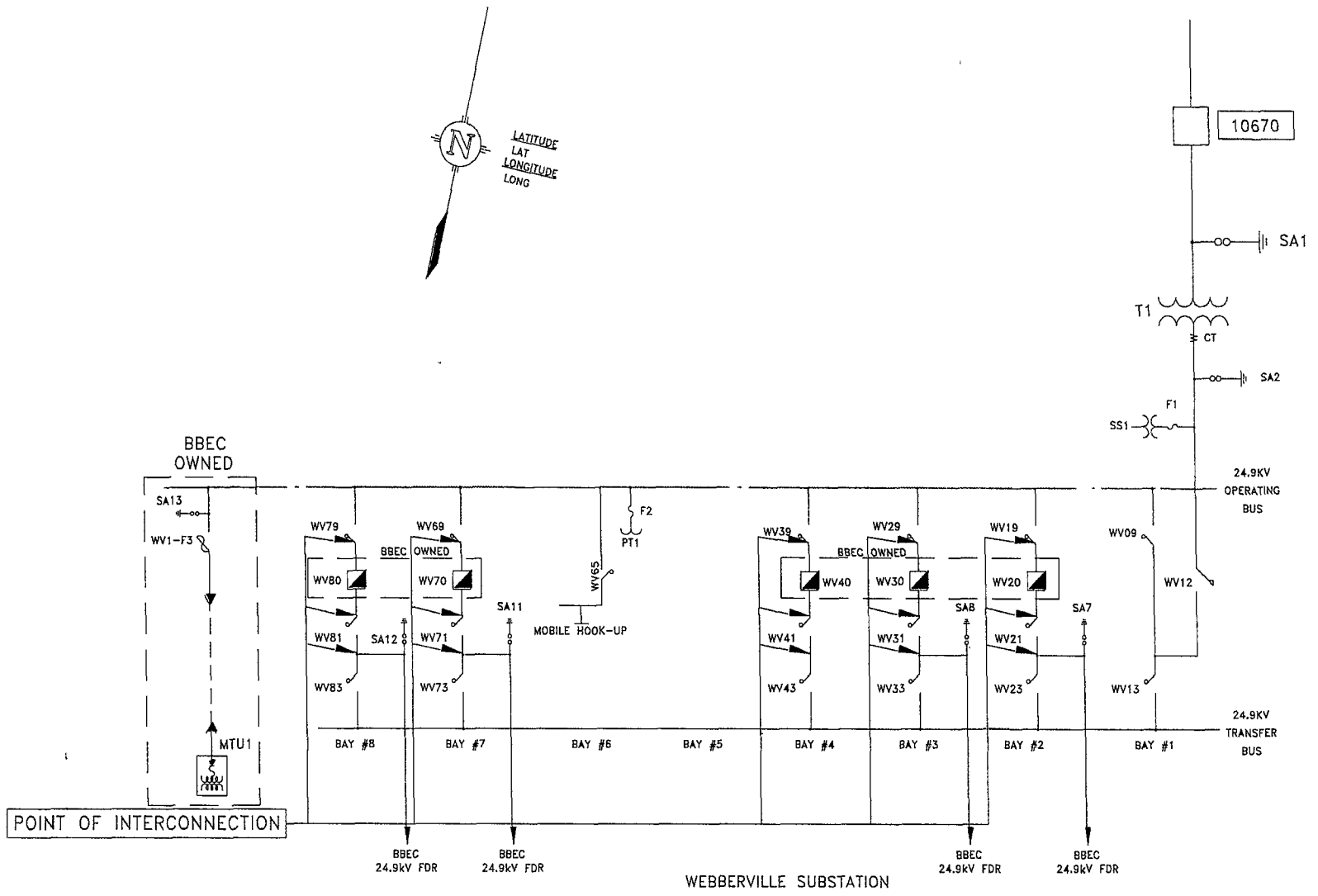
- LCRA TSC will share access to the substation by allowing BBEC to place a hardened lock in series with LCRA TSC's lock in the chain securing the gate.
- LCRA TSC will share access to the control house. Access is obtained by calling LCRA TSC's System Operations Control Center using the intercom at the door of the control house.
- LCRA TSC will provide BBEC access to 125 VDC and 120 VAC power. Circuits must have over current protection devices (OCPD) sized according to NEC standards.
- LCRA TSC will provide BBEC with floor space (as necessary) in its control houses for the installation of BBEC required relay panel boards and equipment.
- LCRA TSC and BBEC shall coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guidelines.
- Webberville Substation access and physical security will be in accordance with LCRA TSC standards which includes:
 - An 8' tall ½" mesh security fence topped with 1'6" concertina wire
 - Intrusion detection

- Perimeter lighting
- Hardened chains and locks at access points
- Yard and control house surveillance (cameras)
- Card reader control house access with intercom to SOCC
- RTU/Security cabinet card access only
- No control house windows (houses with existing windows will have them blocked)
- 120 db sirens and flashing lights inside and outside of control house

-----The remainder of this page has intentionally been left blank-----

WEBBERVILLE ONE-LINE DIAGRAM

Amendment No. 13



THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
 FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
 SUBSTATION, REFER TO DRAWING S470-E-0001-01.