

Control Number: 35077



Item Number: 553

Addendum StartPage: 0

PUC Project No. 35077

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Amendment No. 9

INTERCONNECTION AGREEMENT

Between

LCRA Transmission Services Corporation

and

Bluebonnet Electric Cooperative

Dated June 4, 2015

NINTH AMENDMENT TO INTERCONNECTION AGREEMENT

This Ninth Amendment ("Amendment") is made and entered into this 4th day of June, 2014, 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 (collectively, as amended, the "Agreement"); and

WHEREAS, LCRA TSC removed 12.5 kV disconnect switch LK112 from the T1 12.5 kV transformer bus at Lockhart Substation; and

WHEREAS, BBEC replaced the Underfrequency Relay panel at Magnolia Mercer Substation, which had previously not had its ownership documented in the Interconnection Agreement; and

WHEREAS, LCRA TSC installed a 138 kV ring bus at Paige Substation; and

WHEREAS, BBEC installed a mobile disconnect switch and LCRA TSC installed an automatic transfer switch at Red Rock Substation; and

WHEREAS, BBEC changed the name of Reedville Substation to Robert Brown Jr. Substation; and

WHEREAS, BBEC installed a URD riser, on the distribution feeder to Giddings, at Warda 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 Ninth Amendment is hereby added to the Agreement in lieu thereof.
- 2. Facility Schedule No. 16 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 16 attached to this Ninth Amendment is hereby added to the Agreement in lieu thereof.
- 3. Facility Schedule No. 16 (including the diagrams attached thereto) attached to this Ninth Amendment will become effective upon execution of this Ninth Amendment by the Parties.

- 4. Facility Schedule No. 19 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 19 attached to this Ninth Amendment is hereby added to the Agreement in lieu thereof.
- 5. Facility Schedule No. 19 (including the diagrams attached thereto) attached to this Ninth Amendment will become effective upon execution of this Ninth Amendment by the Parties.
- 6. Facility Schedule No. 23 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 23 attached to this Ninth Amendment is hereby added to the Agreement in lieu thereof.
- 7. Facility Schedule No. 23 (including the diagrams attached thereto) attached to this Ninth Amendment will become effective upon execution of this Ninth Amendment by the Parties.
- 8. Facility Schedule No. 26 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 26 attached to this Ninth Amendment is hereby added to the Agreement in lieu thereof.
- 9. Facility Schedule No. 26 (including the diagrams attached thereto) attached to this Ninth Amendment will become effective upon execution of this Ninth Amendment by the Parties.
- 10. Facility Schedule No. 28 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 28 attached to this Ninth Amendment is hereby added to the Agreement in lieu thereof.
- 11. Facility Schedule No. 28 (including the diagrams attached thereto) attached to this Ninth Amendment will become effective upon execution of this Ninth Amendment by the Parties.
- 12. Facility Schedule No. 32 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 32 attached to this Ninth Amendment is hereby added to the Agreement in lieu thereof.
- 13. Facility Schedule No. 32 (including the diagrams attached thereto) attached to this Ninth Amendment will become effective upon execution of this Ninth 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 Ninth 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 By:	LCRA TRANSMISSION SERVICES CORPORATION By: Cap Cap
Name: Eric Kocian, P.E.	Name: Ray Pfefferkorn, P.E.
Title: Manager of Electric Operations and Engineering	Title: LCRA Transmission Engineering Manager
Date: 5/13/15	Date: 6/4/15

EXHIBIT AAmendment No. 9

FACILITY SCHEDULI		INTERCONNECTION VOLTAGE (KV)	EFFECTIVE DATE
NO.	INTERCONNECTION	VOLIAGE (KV)	OF INTERCONNECTION
210.	(# of Points)		INTERCONNECTION
1	Alum Creek (12)	12.5 kV	11/17/2008
2	Bastrop City (10)	12.5 kV	03/4/2014
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 (1)	138 kV	11/17/2008
7	Cedar Hill (9)	12.5 kV	11/17/2008
8	Chappell Hill (1)	138 kV	11/17/2008
9	Colton (9)	12.5 kV	10/26/2011
10	Dale (8)	12.5 kV	6/17/2013
11	Lyle Wolz (5)	138 kV	11/18/2014
12	Fayetteville (1)	138 kV	11/17/2008
13	Giddings (15)	12.5 kV	01/13/2011
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 #9
17	Luling City (6)	12.5 kV	10/13/2009
18	Luling Magnolia (6)	12.5 kV	11/17/2008
19	Magnolia Mercer (3)	12.5 kV	Date of Amendment #9
20	Manor (2)	138 kV	01/13/2011
21	McCarty Lane East (9)	12.5 kV	11/17/2008
22	Mendoza (9)	12.5 kV	01/13/2011
23	Paige (1)	138 kV	Date of Amendment #9
24	Pisek (1)	138 kV	11/17/2008
25	Plum (4)	12.5 kV	10/26/2011
26	Red Rock (2)	138 kV	Date of Amendment #9
27	Redwood (4)	12.5 kV	11/17/2008
28	Robert Brown Jr. (1)	69 kV	Date of Amendment #9
29	Salem (1)	138 kV	11/17/2008
30	Smithville (10)	69 kV & 12.5 kV	11/17/2008
31	Swiftex (12)	12.5 kV	11/17/2008
32	Warda (6)	24.9 kV	Date of Amendment #9
33	Webberville (12)	24.9 kV	11/17/2008
34	Welcome (1)	138 kV	11/17/2008
35	Wolf Lane (2)	138 kV	01/13/2011
36	Pooley Road (6)	12.5 kV	11/17/2008
	Shadow Glen (1)	138 kV	11/17/2008
38	Tahitian Village (1)	138 kV	01/13/2011
	Beback (1)	138 kV	01/13/2011

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40	Wyldwood (1)	138 kV	01/13/2011
41	Clear Fork (1)	69 kV & 12.5 kV	04/19/2013
42	Seawillow (12)	24.9 kV	11/18/2014

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FACILITY SCHEDULE NO. 16 Amendment No. 9

- 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 the incoming distribution line 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 the incoming distribution line 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 the incoming distribution line 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
- 5. Metering Services Provided by LCRA TSC: Yes
- 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 LK100, LK130, LK140 including jumpers, LCRA TSC BBEC-Ninth Amendment Page 6 of 25

protective relay packages and foundations

- One (1) modulation transformer MTU1 and associated surge arrester and fuse
- 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 and associated switches 3362, 3363 and 3364
- 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 and battery bank
- One (1) station service SS1
- 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.

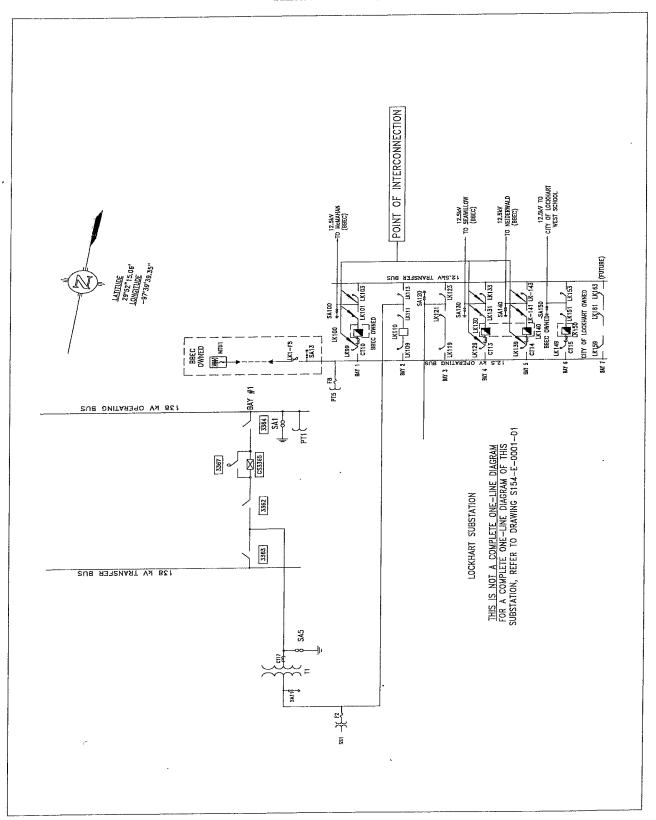
12. Other Terms and Conditions:

- BBEC 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 provide BBEC access to 125 VDC and 120 VAC power. Circuits
 must have over current protection devices (OCPD) sized according to NEC
 standards. Panel boards containing the OCPD may belong to either LCRA TSC
 (if space is available) or BBEC.
- LCRA TSC will provide BBEC with floor space (as available and as necessary) in its control houses for the installation of BBEC required relay panel boards and equipment.

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LOCKHART ONE-LINE DIAGRAM

Amendment No. 9



LCRA TSC - BBEC-Ninth Amendment

FACILITY SCHEDULE NO. 19 Amendment No. 9

- 1. Name: Magnolia Mercer Substation
- 2. Facility Location: Magnolia Mercer Substation is located at 4942 FM 671, Prairie Lea, Caldwell County, Texas 78648.
- 3. **Points of Interconnection:** There are three (3) Points of Interconnection in Magnolia Mercer Substation generally described as:
 - where the incoming distribution line connects to the dead end insulator, along with the jumpers from switches MM11 and MM13, at breaker MM10.
 - where the jumper from breaker MM10, passing through CT1, connects to the 4 hole pad on switch MM9.
 - where the jumper from breaker MM10 connects to the 4 hole pad on switch MM11.
- 4. Transformation Services Provided by LCRA TSC: Yes
- 5. Metering Services Provided by LCRA TSC: Yes
- 6. Delivery Voltage: 12.5 kV
- 7. Metered Voltage and Location: The metering voltage is 12.5 kV. The metering current transformer is located in the distribution bay. The bus potential transformer is located on the 12.5 kV bus.
- 8. One Line Diagram Attached: Yes
- 9. Description of Facilities Owned by Each Party:

BBEC owns:

- One (1) distribution circuit including dead end insulators that attach to the dead end structure, conductors and hardware
- One (1) distribution circuit breaker MM10 including jumpers, protective relay package and foundation
- One (1) load acting as a resource LAARS (Underfrequency relay panel)

LCRA TSC owns:

Magnolia Mercer Substation including, but not limited to, the following items:

- One (1) 69 kV switch 1266
- One (1) 69 kV fuse F1
- Four (4) single phase power transformers T1 with foundations, jumpers and protective fuse
- One (1) distribution box structure, insulators, disconnect switches, surge arresters,

LCRA TSC - BBEC-Ninth Amendment

12.5 kV operating bus, bus potential transformer, metering current transformer and associated cabling

- One (1) control house
- One (1) battery house and battery bank
- One (1) station service SS1
- 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.

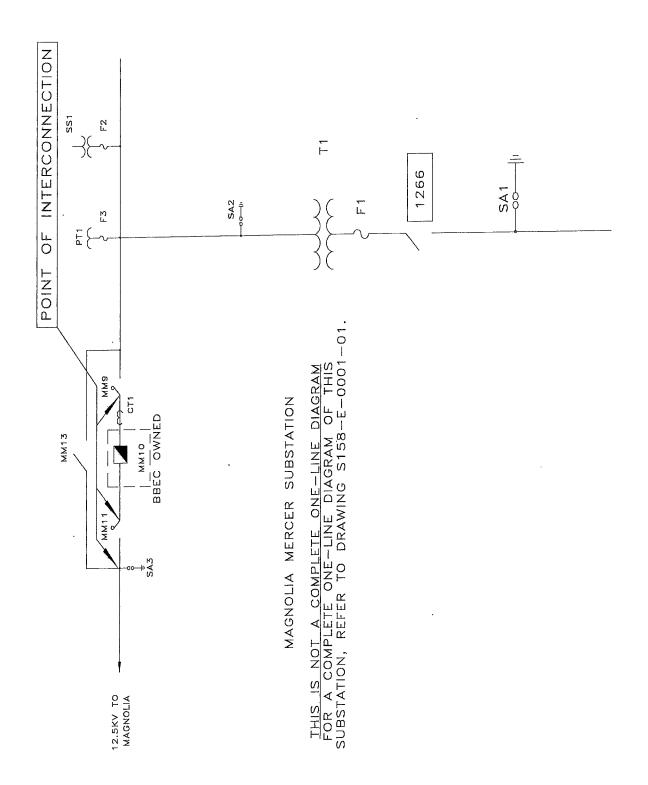
12. Other Terms and Conditions:

- BBEC 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 provide BBEC access to 125 VDC and 120 VAC power. Circuits
 must have over current protection devices (OCPD) sized according to NEC
 standards. Panel boards containing the OCPD may belong to either LCRA TSC
 (if space is available) or BBEC.
- LCRA TSC will provide BBEC with floor space (as available and as necessary) in its control houses for the installation of BBEC required relay panel boards and equipment.

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MAGNOLIA MERCER ONE-LINE DIAGRAM

Amendment No. 9



FACILITY SCHEDULE NO. 23

Amendment No. 9

- 1. Name: Paige Substation
- **2. Facility Location:** Paige Substation is located at 2575 East State Highway 21, Paige, and Bastrop County, Texas 78659.
- **Points of Interconnection:** There is one (1) Point of Interconnection in Paige Substation generally described as:
 - where the jumper LCRA TSC 138 kV bus attaches to the four hole pad on BBEC switch 2464.
- 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 inside BBEC transformer T1. 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:

BBEC owns:

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

- One (1) 138 kV mobile connection with disconnect switch 25908
- One (1) circuit switcher CS2465 with bypass switch 2467
- One (1) 138 kV disconnect switch 2464
- One (1) power transformer T1 with associated surge arresters, foundation, jumpers and protective relaying
- One (1) transformer distribution bus disconnect switch PG35
- 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, 12.5 kV operating and transfer buses, bus potential transformers and associated cabling
- One (1) modulation transformer MTU1 with associated fuse F3
- One (1) 12.5 kV fuse F5
- Two (2) control houses (20' X 25' and 21' X 27') and battery banks

- Two (2) station service SS1 with fuse F1 and SS2 with fuse F4
- Substation property ground grid, gravel, fencing and other appurtenances

LCRA TSC owns:

- Two (2) 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV Ring Bus including structures, insulators, hardware, foundations and jumpers
- One (1) 138 kV bus differential breaker failure relaying scheme
- One (1) meter package
- Three (3) 138 kV circuit breakers 25910, 25920 and 25930 with foundations, jumpers and protective relay packages
- Six (6) 138 kV switches 25909, 25911, 25919, 25921, 25929 and 25931
- Two (2) 138 kV surge arresters SA11 and SA12
- Two (2) capacitor coupled voltage transformers CCVT1 and CCVT2
- One (1) monopole communications pole with space provided for BBEC communications equipment
- 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.

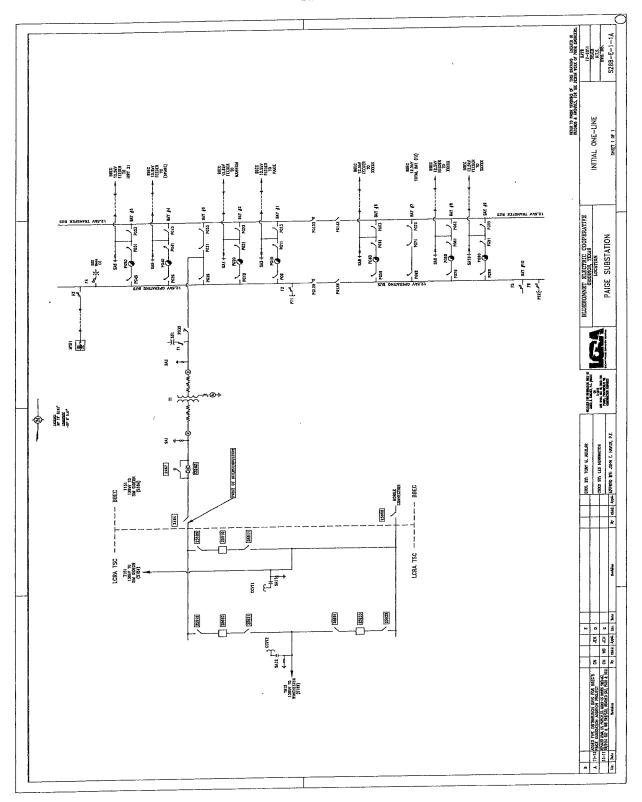
12. Other Terms and Conditions:

- 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 12.5 kV bus potential transformers PT1 and PT2 for metering.
- BBEC will supply and allow LCRA TSC use of transformer T1 metering and relaying bushing current transformers for its metering and 138 kV bus differential relaying scheme.
- LCRA TSC will provide tripping and close inhibit contacts from its 138 kV bus differential & breaker failure relaying panel to BBEC circuit switcher CS2465 relaying panel.
- BBEC will provide breaker failure initiate contacts from its circuit switcher CS2465 relaying panel to LCRA TSC's 138 kV bus differential & breaker failure relaying panel.
- LCRA TSC and BBEC shall design, provide, and coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guides.
- BBEC will provide LCRA TSC access to 125 VDC and 120 VAC power. Circuits
 must have over current protection devices (OCPD) sized according to NEC
 standards. Panel boards containing the OCPD may belong to either BBEC (if
 space is available) or LCRA TSC.
- BBEC will provide LCRA TSC with floor space (as available and as necessary) in its control houses for the installation of LCRA TSC required relay panel boards and equipment.

- LCRA TSC will provide space on its communications monopole for BBEC communications equipment.
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PAIGE ONE-LINE DIAGRAM

Amendment No. 9



FACILITY SCHEDULE NO. 26 Amendment No. 9

- 1. Name: Red Rock Substation
- 2. Facility Location: Red Rock Substation is located at 122 FM 812, Red Rock, Bastrop County, Texas 78662.
- **Points of Interconnection:** There are two (2) Points of Interconnection in Red Rock Substation generally described as:
 - where the 138 kV Operating Bus A-tap attaches to the bus extension going to switch 8546.
 - where the 138 kV Transfer Bus A-tap attaches to the bus extension going to switch 8567.
- 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 inside BBEC transformer T1. 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:

- One (1) 138 kV bay including A-frame, bus extensions, trusses, insulators, conductors, hardware and foundations
- One (1) circuit switcher CS8545 with associated disconnect and bypass switches 8546, 8566, 8567 and 8543
- One (1) 138 kV mobile switch 8548
- One (1) power transformer T1 with associated surge arresters, foundation, jumpers and protective relaying
- 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, 12.5 kV operating and transfer bus, bus potential transformer and associated cabling
- One (1) modulation transformer MTU1 with associated surge arrester and fuse
- One (1) backup generator

- One (1) communications tower
- Two (2) station service SS1 and SS2

LCRA TSC owns:

Red Rock Substation including, but not limited to, the following items:

- Two (2) 138 kV bays including A-frames, trusses, insulators, conductors, hardware and foundations
- One (1) 138 kV dead-end structure, foundations, insulators and jumpers (where the Lockhart transmission line terminates in the substation)
- Two (2) 138 kV circuit breakers 8540 and 8550 including foundations, jumpers and protective relay packages
- One (1) 138 kV bus extension to mobile switch 4548
- One (1) 138 kV bus differential and breaker failure relaying scheme
- Six (6) 138 kV switches 8539, 8541, 8542, 8549, 8551 and 8553
- Three (3) 138 kV surge arresters SA1, SA7 and SA8
- Two (2) capacitive coupled voltage transformers CCVT1 and CCVT2
- One (1) 138 kV operating bus including structures, foundations and jumpers
- One (1) 138 kV transfer bus including structures, foundations and jumpers
- One (1) control house
- One (1) battery bank and battery charger
- Two (2) automatic transfer switches
- 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

- 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 12.5 kV bus potential transformer PT1 for metering.
- BBEC will supply and allow LCRA TSC use of a transformer T1 metering and relaying bushing current transformers for its metering and 138 kV bus differential relaying scheme.
- LCRA TSC will provide tripping and close inhibit contacts from its 138 kV bus differential & breaker failure relaying panel to BBEC circuit switcher CS8545 relaying panel.
- BBEC will provide breaker failure initiate contacts from its circuit switcher CS8545 relaying panel to LCRA TSC's 138 kV bus differential & breaker failure relaying panel.
- LCRA TSC and BBEC shall design, provide, and coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guides.
- LCRA TSC will provide BBEC access to 125 VDC and 120 VAC power. Circuits

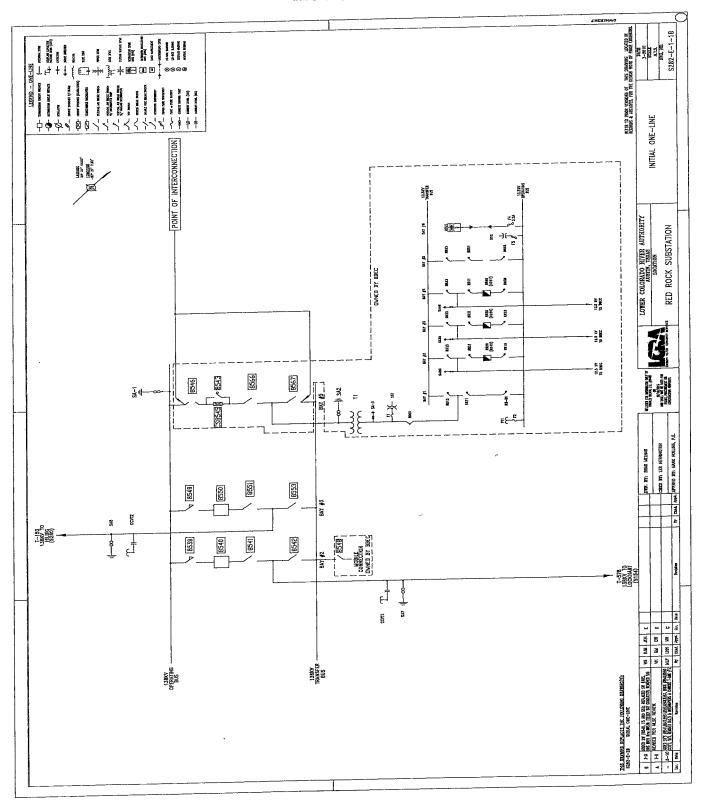
must have over current protection devices (OCPD) sized according to NEC standards. Panel boards containing the OCPD may belong to either LCRA TSC (if space is available) or BBEC.

• LCRA TSC will provide BBEC with floor space (as available and as necessary) in its control houses for the installation of BBEC required relay panel boards and equipment.

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RED ROCK ONE-LINE DIAGRAM

Amendment No. 9



FACILITY SCHEDULE NO. 28

Amendment No. 9

- 1. Name: Robert Brown Jr. Substation
- 2. Facility Location: Robert Brown Jr. Substation is located at 2725 FM 1984, Maxwell, Caldwell County, Texas 78656.
- **3. Points of Interconnection:** There is one (1) Point of Interconnection in Robert Brown Jr. Substation generally described as:
 - where the 69 kV operating bus expansion terminal bolts to the four hole pad of switch 19264.
- 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 transformer for T1 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:

BBEC owns:

Robert Brown Jr. Substation including, but not limited to, the following items:

- One (1) circuit switcher CS19265 with associated disconnect switch 19264
- One (1) 138 kV mobile switch 19274
- One (1) power transformer T1 with associated surge arresters, foundations, jumpers and protective relaying
- 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, 12.5 kV operating and transfer bus, bus potential transformer and associated cabling
- One (1) modulation transformer MTU1 with associated surge arrester and fuse
- One (1) control house
- One (1) station service SS1
- Substation property, ground grid, gravel, fencing and other appurtenances

LCRA TSC owns:

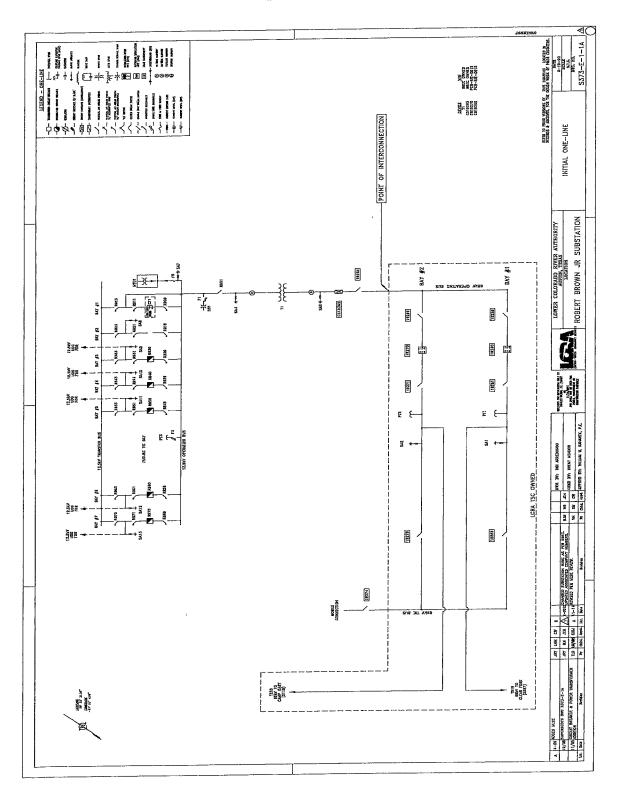
- Two (2) 69 kV bays (rated 138 kV) including A-frames, trusses, insulators, conductors, hardware and foundations
- One (1) 69 kV bus differential and breaker failure relaying scheme
- Two (2) 138 kV circuit breakers 19260 and 19270 including jumpers and protective relay packages
- Six (6) 138 kV switches 19259, 19261, 19269, 19271, 19279, and 19289
- Two (2) 69 kV surge arresters SA1 and SA2
- One (1) 69 kV operating bus (rated 138 kV) including structures, foundations and jumpers
- One (1) 69 kV tie bus (rated 138 kV) including structures, foundations and jumpers
- Two (2) 69 kV bus potential transformers PT1 and PT2
- One (1) 12.5 kV metering current transformer CT1
- One (1) battery bank and battery charger
- 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 12.5 kV bus potential transformer PT3 for metering.
- BBEC will supply and allow LCRA TSC use of a transformer T1 relaying bushing current transformer for its 69 kV bus differential relaying scheme.
- LCRA TSC will provide tripping and close inhibit contacts from its 69 kV bus differential & breaker failure relaying panel to BBEC circuit switcher CS19265 relaying panel.
- BBEC will provide breaker failure initiate contacts from its circuit switcher CS19265 relaying panel to LCRA TSC's 69 kV bus differential & breaker failure relaying panel.
- LCRA TSC and BBEC shall design, provide, and coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guides.
- BBEC will provide LCRA TSC access to 125 VDC and 120 VAC power. Circuits
 must have over current protection devices (OCPD) sized according to NEC
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 space is available) or LCRA TSC.
- BBEC will provide LCRA TSC with floor space (as available and as necessary) in its control houses for the installation of BBEC required relay panel boards and equipment.

ROBERT BROWN JR. ONE-LINE DIAGRAM

Amendment No. 9



FACILITY SCHEDULE NO. 32

Amendment No. 9

- 1. Name: Warda Substation
- **2. Facility Location:** Warda Substation is located at 400 Warda Church Road, Warda, Fayette County, Texas 78960.
- **3. Points of Interconnection:** There are six (6) Points of Interconnection in Warda Substation generally described as:
 - where the incoming distribution line connects to the tubular bus between switches WR31 and WR33 at breaker WR30.
 - where the jumper from breaker WR30, passing through CT3, connects to the 4 hole pad on switch WR29.
 - where the jumper from breaker WR30 connects to the 4 hole pad on switch WR31.
 - where the incoming distribution line connects to the tubular bus between switches WR71 and WR73 at breaker WR70.
 - where the jumper from breaker WR70, passing through CT6, connects to the 4 hole pad on switch WR69.
 - where the jumper from breaker WR70 connects to the 4 hole pad on switch WR71.
- 4. Transformation Services Provided by LCRA TSC: Yes
- 5. Metering Services Provided by LCRA TSC: Yes
- 6. Delivery Voltage: 24.9 kV
- 7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformers are located inside T1 and in each distribution bay. 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:

- Two (2) distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
- Two (2) distribution circuit breakers WR30 and WR70 including jumpers, protective relay packages and URD riser on feeder to Giddings
- One (1) 24.9 kV surge arrester SA12
- Two (2) distribution circuit breaker foundations
- One (1) modulation transformer MTU2 and associated surge arrester and fuse

LCRA TSC - BBEC-Ninth Amendment

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LCRA TSC owns:

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

- One (1) circuit switcher CS9235 and associated bypass switch 9237
- One (1) power transformer T1 with associated surge arresters, jumpers, foundation and protective relaying
- Ten (10) distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus, bus potential transformer, metering current transformers and associated cabling
- One (1) control house and battery bank
- One (1) station service SS1
- 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.

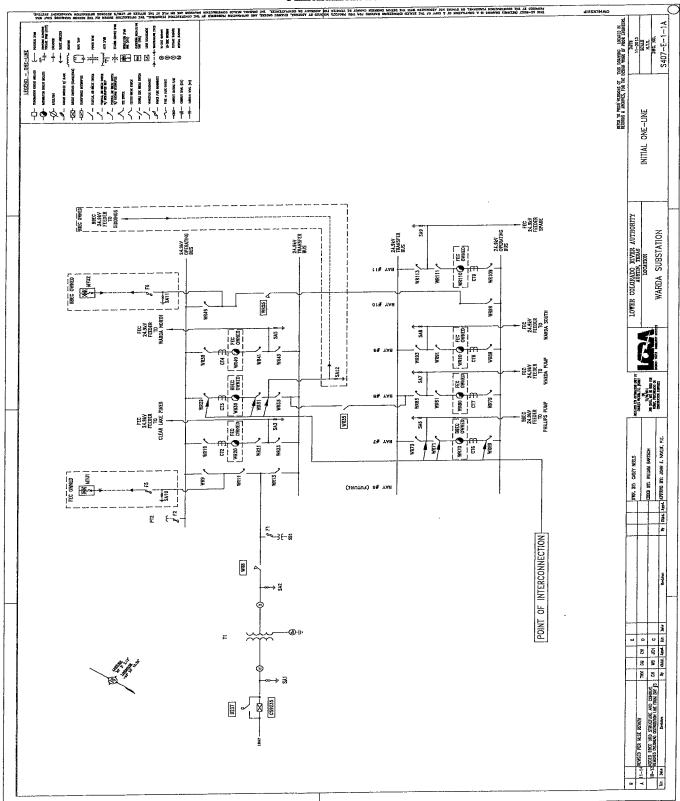
12. Other Terms and Conditions:

- BBEC 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 provide BBEC access to 125 VDC and 120 VAC power. Circuits
 must have over current protection devices (OCPD) sized according to NEC
 standards. Panel boards containing the OCPD may belong to either LCRA TSC
 (if space is available) or BBEC.
- LCRA TSC will provide BBEC with floor space (as available and as necessary) in
 its control houses for the installation of BBEC required relay panel boards and
 equipment.

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WARDA ONE-LINE DIAGRAM

Amendment No. 9



LCRA TSC - BBEC-Ninth Amendment

FIFTH AMENDMENT TO INTERCONNECTION AGREEMENT

This Fifth Amendment to Interconnection Agreement ("Fifth Amendment") is made and entered into this 3 day of 2015, between New Braunfels Utilities ("NBU"), a municipally owned utility and LCRA Transmission Services Corporation ("LCRA TSC") collectively referred to hereinafter as the Parties.

WHEREAS, LCRA TSC and NBU entered into that certain Interconnection Agreement executed July 22, 2009, as amended by that certain Amendment No. 1, executed as of December 16, 2009, as amended by that certain Amendment No. 2, executed as of January 17, 2011, as amended by that certain Amendment No. 3, executed as of January 8, 2014, as amended by that certain Amendment No. 4, executed as of September 17, 2014 (collectively, as amended, the "Agreement"); and

WHEREAS, LCRA TSC will upgrade the protection scheme at Henne 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" Amendment No. 4, attached to the Agreement, is deleted in its entirety and Exhibit "A" Amendment No. 5, attached to this Fifth Amendment, is substituted as Exhibit A of the Agreement as of the effective date of this Fifth Amendment.
- 2. Facility Schedule No. 3 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 3, attached to this Fifth Amendment, is hereby added to the Agreement in lieu thereof.
- 3. Facility Schedule No. 3 (including the diagrams attached thereto), attached to this Fifth Amendment, will become effective upon execution of this Fifth Amendment by the Parties.
- 4. The changes described in this Fifth Amendment, and the diagrams attached thereto, will become effective upon execution of this Fifth Amendment.

Except as otherwise expressly provided in this Fifth Amendment, all the terms and conditions of the Agreement shall remain in full force and effect.

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IN WITNESS WHEREOF, the Parties, acting through their authorized representatives, have executed this Fifth Amendment in two counterparts, each of which shall be deemed an original, but shall constitute one and the same instrument.

NEW BRAUNFELS UTILITIES

By: Jauly Kinfongo

Name: Paula J. DiFonzo

Title: Chief Executive Officer

Date: June 3, 2015

LCRA TRANSMISSION SERVICES CORPORATION

By: Kan foffer

Name: Ray Pfefferkorn, P.E.

Title: <u>LCRA Transmission Engineering Manager</u>

Date: 5/28/15



EXHIBIT A
Amendment No 5

FACILITY SCHEDULE	LOCATION OF POINT(S) OF	INTERCONNECTION VOLTAGE (KV)	EFFECTIVE DATE OF
NO.	INTERCONNECTION	j	INTERCONNECTION
	(# of Points)		
1	Comal (6)	138 kV	January 17, 2011
2	Freiheit Road (2)	138 kV	July 22, 2009 Date of 5 th Amendment
3	Henne (4)	138 kV	Date of 5 th Amendment
4	Highway 46 (2)	138 kV	January 8, 2014
5	Hortontown (3)	138 kV	July 22, 2009
6	Sheriff's Posse (1)	138 kV	July 22, 2009
7	Marion (2)	138 kV	January 17, 2011
8	EC Mornhinweg (1)	138 kV	September 17, 2014
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FACILITY SCHEDULE NO. 3 Amendment No 5

- 1. Name: Henne Substation
- **Facility Location:** Henne Substation is located at 7335 N. IH 35, New Braunfels, Comal County, Texas 78130.
- 3. **Points of Interconnection:** There are four (4) Points of Interconnection in Henne Substation generally described as:
 - where the 138 kV operating bus #1 terminal connector bolts to the four hole pad on switch 5869.
 - where the 138 kV transfer bus terminal connector bolts to the four hole pad on switch 5873.
 - where the 138 kV operating bus #2 terminal connector bolts to the four hole pad on switch 4446.
 - where the 138 kV transfer bus terminal connector bolts to the four hole pad on switch 4443.
- 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 and 138 kV. The metering current transformers are located inside T1 and inside circuit breaker 5870NB. The bus potential transformers are located on the 12.5 kV operating bus and 138 kV Operating Bus #1.
- 8. One Line Diagram Attached: Yes
- 9. Description of Facilities Owned by Each Party:

NBU owns:

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

- The 138 kV dead-end structure, foundations, insulators and jumpers in Operating Bus #1, bay #2
- One (1) 138 kV circuit breaker 5870NB including foundation, jumpers and protective relay package
- Six (6) 138 kV switches 4443, 4444, 4446, 5869, 5871 and 5873
- One (1) circuit switcher CS4445 with associated bypass switch 4447
- One (1) power transformer T1 with associated surge arresters
- 138 kV transformer bus including insulators and jumpers
- One (1) transformer bus tower including foundations, insulators and jumpers

- 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, bus tie switches, surge arresters, 12.5 kV operating and transfer bus, bus potential transformer and associated cabling
- Underfrequency relay equipment
- Station Service
- Control house and battery
- Substation property, ground grid, gravel, fencing and other appurtenances

LCRA TSC owns:

- The 138 kV dead-end structures, foundations, insulators and jumpers in Operating Bus #2, bays # 2, #3, #5 and Operating Bus #1 bays #4 and #5
- 138 kV operating bus #1 including structures, insulators, foundations and jumpers
- Two (2) 138 kV bus differential and breaker failure relaying schemes
- One (1) 138 kV bus potential transformer PT1 with stand and foundation
- 138 kV operating bus #2 and transfer bus including structures, insulators, foundations and jumpers
- Five (5) 138 kV circuit breakers 5860, 5880, 5890, 5900 and 5910 including foundations, jumpers and protective relay packages
- Fifteen (15) 138 kV switches 5859, 5861, 5863, 5879, 5881, 5883, 5889, 5891, 5893, 5899, 5901, 5903, 5909, 5911 and 5913
- One (1) wave trap and line tuner WT3
- One (1) coupling capacitor CC3
- One (1) 138 kV bus potential transformer PT2
- One (1) power voltage transformer PVT1
- Four (4) 138 kV surge arresters SA1, SA2, SA8 and SA9 with stands and foundations
- Three (3) current transformers CT1, CT2 and CT3
- Operational Responsibilities of Each Party: Each Party will be responsible for the 10. operation of the equipment it owns.
- Maintenance Responsibilities of Each Party: Each Party will be fully responsible for 11. the maintenance of the equipment it owns.

Other Terms and Conditions: 12.

- NBU and LCRA TSC are to share access to the substation by LCRA TSC locks in the gates and in the control house doors.
- LCRA TSC will supply and provide tripping and close inhibit contacts from its 138 kV bus differential and breaker failure panel to NBU's circuit breaker 5870NB and circuit switcher CS4445 relaying panels.

- NBU will supply and provide breaker failure initiate contacts from its circuit breaker 5870NB and circuit switcher CS4445 relaying panels to LCRA TSC's 138 kV bus differential and breaker failure panel.
- NBU will supply and provide metering and relaying current transformers from circuit breaker 5870NB for use by LCRA TSC in LCRA TSC's metering and 138 kV bus differential relaying scheme.
- NBU will supply and allow LCRA TSC use of its 12.5 kV bus potential transformer PT-3 for LCRA TSC's metering.
- NBU will supply and allow LCRA TSC use of transformer T1 metering and relaying bushing current transformers for LCRA TSC's metering and 138 kV bus differential relaying scheme.
- LCRA TSC and NBU shall design, provide, and coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guides.
- NBU will provide LCRA TSC access to 125 VDC and 120 VAC power. Circuits
 must have over current protection devices (OCPD) sized according to NEC standards.
 Panel boards containing the OCPD may belong to either NBU (if space is available)
 or LCRA TSC.
- NBU will provide LCRA TSC with floor space (as available and as necessary) in NBU's control house for the installation of LCRA TSC required control, communications and SCADA equipment.

HENNE ONE-LINE DIAGRAM

Amendment No 5

