



Control Number: 35077



Item Number: 763

Addendum StartPage: 0

**Project No. 35077**

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**Thirteenth Amendment**

**INTERCONNECTION AGREEMENT**

**Between**

**LCRA Transmission Services Corporation**

**and**

**Guadalupe Valley Electric Cooperative, Inc.**

**September 21, 2017**

763 1

executed 9-21-17

### **THIRTEENTH AMENDMENT TO INTERCONNECTION AGREEMENT**

This Thirteenth Amendment ("Amendment") is made and entered into this 21 day of SEPTEMBER, 2017, between the Guadalupe Valley Electric Cooperative, Inc. ("GVEC") and LCRA Transmission Services Corporation ("LCRA TSC") collectively referred to hereinafter as the Parties.

**WHEREAS**, LCRA TSC and GVEC entered into that certain Interconnect Agreement executed February 8, 2011; as amended by that certain Amendment No. 1, executed as of August 26, 2011; as amended by that certain Amendment No. 2, executed as of October 13, 2011; as amended by that certain Amendment No. 3, executed as of November 30, 2011; as amended by that certain Amendment No. 4, executed as of December 19, 2011, as amended by that certain Amendment No. 5, executed as of February 16, 2012, as amended by that certain Amendment No. 6, executed as of April 25, 2013, as amended by that certain Amendment No. 7, executed as of July 29, 2013, as amended by that certain Amendment No. 8, executed as of December 19, 2014, as amended by that certain Amendment No. 9, executed as of February 23, 2015, as amended by that certain Amendment No. 10, executed as of October 20, 2016, as amended by that certain Amendment No. 11, executed as of March 10, 2017, as amended by that certain Amendment No. 12, executed as of June 29, 2017 (collectively, as amended, the "Agreement"); and,

**WHEREAS**, LCRA TSC will implement the FY18 Physical Security project at the Cuero Substation;

**WHEREAS**, LCRA TSC will implement FY18 Physical Security project at Deer Creek Substation;

**WHEREAS**, LCRA TSC will install a power transformer, remove the UFLS panel and implement the FY18 Physical Security project at Seguin West Substation; and,

**WHEREAS**, GVEC will install the Meadow Lake Substation and LCRA TSC will install 138 kV transmission service to the station.

**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. Facility Schedule No. 1 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 1 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
3. Facility Schedule No. 1 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth Amendment by the Parties.

4. Facility Schedule No. 11 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 11 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
5. Facility Schedule No. 11 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth Amendment by the Parties.
6. Facility Schedule No. 26 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 26 attached to this Thirteenth Amendment is hereby added to the Agreement in lieu thereof.
7. Facility Schedule No. 26 (including the diagrams attached thereto) attached to this Thirteenth Amendment will become effective upon execution of this Thirteenth Amendment by the Parties.
8. Facility Schedule No. 29 (including the diagrams attached thereto) is hereby added to this Thirteenth Amendment.
9. Facility Schedule No. 29 (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.

GUADALUPE VALLEY ELECTRIC  
COOPERATIVE, INC.

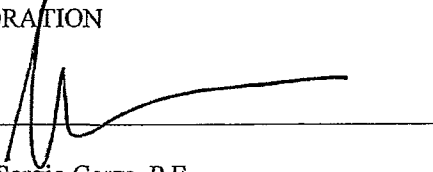
By: 

Name: Sean Alvarez

Title: Chief Operating Officer and  
Senior Executive, Engineering and Operations

Date: 09/21/2017

LCRA TRANSMISSION SERVICES  
CORPORATION

By: 

Name: Sergio Garza, P.E.

Title: LCRA Vice President, Transmission  
Design and Protection

Date: Aug 31 2017



**Exhibit A**  
Amendment No. 13

<b>FACILITY SCHEDULE NO.</b>	<b>LOCATION OF POINT(S) OF INTERCONNECTION (# of Points)</b>	<b>INTERCONNECTION VOLTAGE (KV)</b>	<b>EFFECTIVE DATE OF INTERCONNECTION</b>
1	Cuero (18)	12.5 kV	Date of 13 <sup>th</sup> Amendment
2	Geronimo (4)	138 kV	7/29/2013
3	Gonzales (2)	138 kV	2/8/2011
4	Hallettsville (2)	138 kV	12/19/2014
5	FM 237 Yorktown (1)	138 kV	12/19/2014
6	Marion (2)	138 kV	6/29/2017
7	LCRA Nixon (13)	69 kV /138 kV	3/10/2017
8	Parkway (6)	138 kV	2/8/2011
9	Schumansville (1)	138 kV	6/29/2017
10	Seguin (6)	138 kV	February 23, 2015
11	Seguin West (4)	138 kV	Date of 13 <sup>th</sup> Amendment
12	Sweet Home (6)	24.9 kV	2/8/2011
13	Thompsonville (3)	4.16 kV	2/8/2011
14	Waelder (6)	12.5 kV	2/8/2011
15	Weiderstein (2)	138 kV	2/8/2011
16	Yoakum-Gartner (11)	12.5 kV	6/29/2017
17	York Creek (1)	138 kV	2/8/2011
18	Cheapside (2)	138 kV	2/8/2011
19	Pilot Grove (3)	138 kV	2/23/2015
20	Nordheim West (1)	138 kV	12/19/2014
21	Lost Creek (2)	138 kV	12/19/2014
22	Mont (1)	138 kV	2/16/2012
23	Lindenau (1)	138 kV	2/16/2012
24	Highway 123 (4)	138 kV	3/10/2017
25	Gillett (1)	138 kV	3/10/2017
26	Deer Creek (2)	69 kV/138 kV	Date of 13 <sup>th</sup> Amendment
27	Shiner (3)	12.5 kV	2/23/2015
28	Moulton South (1)	138 kV	10/20/2016
29	Meadow Lake (1)	138 kV	Date of 13 <sup>th</sup> Amendment
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## FACILITY SCHEDULE NO. 1

### Amendment No 13

1. **Name:** Cuero Substation
2. **Facility Location:** The Cuero Substation is located at 1022 E. FM 1447, Cuero, Dewitt County, Texas 77954.
3. **Points of Interconnection:** There are eighteen (18) Points of Interconnection in the Cuero Substation generally described as:
  - where the incoming distribution line connects to the tubular bus between switches CU311 and CU313 at breaker CU101.
  - where the jumper from breaker CU101 connects to the 4 hole pad on switch CU309.
  - where the jumper from breaker CU101 connects to the 4 hole pad on switch CU311.
  - where the incoming distribution line connects to the tubular bus between switches CU321 and CU323 at breaker CU201.
  - where the jumper from breaker CU201 connects to the 4 hole pad on switch CU319.
  - where the jumper from breaker CU201 connects to the 4 hole pad on switch CU321.
  - where the incoming distribution line connects to the tubular bus between switches CU341 and CU343 at breaker CU401.
  - where the jumper from breaker CU401 connects to the 4 hole pad on switch CU339.
  - where the jumper from breaker CU401 connects to the 4 hole pad on switch CU341.
  - where the incoming distribution line connects to the tubular bus between switches CU351 and CU353 at breaker CU501.
  - where the jumper from breaker CU501 connects to the 4 hole pad on switch CU349.
  - where the jumper from breaker CU501 connects to the 4 hole pad on switch CU351.
  - where the incoming distribution line connects to the tubular bus between switches CU361 and CU363 at breaker CU601.
  - where the jumper from breaker CU601 connects to the 4 hole pad on switch CU359.
  - where the jumper from breaker CU601 connects to the 4 hole pad on switch CU361.
  - where the incoming distribution line connects to the tubular bus between switches CU371 and CU373 at breaker CU701.
  - where the jumper from breaker CU701 connects to the 4 hole pad on switch CU369.
  - where the jumper from breaker CU701 connects to the 4 hole pad on switch CU371.
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 are located inside T4 and in the 12.5 kV tie bay 1-1 (CT13). 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:**

GVEC owns:

- Six (6) distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
- Six (6) distribution circuit breakers CU101, CU201, CU401, CU501, CU601 and CU701 including jumpers and protective relaying
- Four (4) distribution circuit breaker foundations in bays 3-1, 3-2, 3-4 and 3-5
- One (1) load management system LM with fuse F6
- One (1) resource management system RM with fuse F10
- One (1) modulation transformer MTU1 with fuses F12 and F13
- Communications equipment on LCRA TSC communications tower

LCRA TSC owns:

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

- 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV operating bus #1 and transfer bus #1 and #2 including structures, insulators, foundations and jumpers
- Two (2) power transformers T1 and T4 with associated surge arresters, foundations and protective relaying
- Two (2) single phase current transformers CT21 and CT10
- One (1) relaying current transformer CT23
- Two (2) circuit switchers CS4255 and CS4285 with associated bypass switches 4258 and 4288
- Five (5) 138 kV switches 4254, 4257, 4276, 4284 and 4287
- One (1) 138 kV circuit breaker 4270 with foundation, jumpers and protective relaying
- One (1) capacitor bank CP1
- One (1) capacitor bank potential transformer PT4
- All T4 distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus and bus potential transformer
- One (1) total circuit breaker CU380 including foundation, jumpers and protective relaying
- Two (2) distribution circuit breaker foundations in bays # 3-6 and # 3-7
- All T1 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) total circuit breaker CU130 with jumpers, protective relaying and foundation
- One (1) bus tie circuit breaker CU110 including foundation, jumpers and protective

relaying

- Two (2) 12.5kV mobile transformer connection points
- Two (2) meter panels (1 for GVEC metering)
- Relay, RTU and SIP panels
- Two (2) station service SS1 with fuse F3 and SS4 with fuse F11
- One (1) control house (24' x 40') with batteries and battery charger
- 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 Cuero Substation by allowing GVEC 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 Cuero Substation 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 GVEC 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 GVEC with floor space (as necessary) in its control house for the installation of GVEC required relay panel boards and equipment.
- LCRA TSC and GVEC shall design, provide, and coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guides.
- GVEC is permitted to install, operate and maintain, a Microwave Link (MW)-consisting of a Motorola PTP 400 Bridge along with the associated hardware and electronics at approximately 80 foot elevation on the existing LCRA TSC 103' Tower at the Northeast corner of the control house, operating in the RF band of 5.470 GHz-5.725 GHz, under the following conditions:
  - GVEC's final MW design is reviewed and approved by LCRA TSC prior to installation.
  - GVEC's installation does not interfere with LCRA TSC operations.
  - GVEC's installation is for the sole purpose of electric utility operations associated with the substation and GVEC's distribution equipment.
  - If LCRA TSC in the future needs the communication tower space (at the sole discretion of LCRA TSC), then GVEC will relocate their facilities upon written notice from LCRA TSC.
  - Changes in equipment elevation, azimuth, transmit power, or operating frequency must be preapproved by LCRA TSC
  - GVEC shall operate the RF equipment under all FCC requirements
- Cuero 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

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## **FACILITY SCHEDULE NO. 11**

### **Amendment No 13**

1. **Name:** Seguin West Substation
2. **Facility Location:** The Seguin West Substation is located at 1405 New Braunfels St., Seguin, Guadalupe County, Texas 78155.
3. **Points of Interconnection:** There are four (4) Points of Interconnection in the Seguin West Substation generally described as:
  - where the LCRA TSC jumper from switch 9739 bolts to the four hole pad on the GVEC 138 kV operating bus.
  - where the LCRA TSC jumper from switch 9743 bolts to the four hole pad on the GVEC 138 kV transfer bus.
  - where the LCRA TSC jumper from switch 28979 bolts to the four hole pad on the GVEC 138 kV operating bus.
  - where the LCRA TSC jumper from switch 28983 bolts to the four hole pad on the GVEC 138 kV transfer bus.
4. **Transformation Services Provided by LCRA TSC:** No
5. **Metering Services Provided by LCRA TSC:** Yes, per Wholesale Metering Service 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 T2. 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:**

GVEC owns:

  - The following transmission lines comprised of conductors, insulators, and connecting hardware:
    - Seguin West to Caterpillar 138 kV transmission line
    - Seguin West to Seguin 138 kV transmission line
  - Three (3) 138 kV dead end structures (bays #2, #3 and #4), foundations, insulators and jumpers
  - Two (2) 138 kV coupling capacitor voltage transformers CCVT1 and CCVT2

- Two (2) 138 kV wave traps and tuners WT1 and WT2
- One (1) 138 kV bus potential transformer PT1
- One (1) 138 kV surge arrester SA1
- One (1) 138 kV bus differential and breaker failure relaying scheme
- 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
- Two (2) 138 kV circuit breakers 9760 and 9770 including foundations, jumpers and protective relaying
- One (1) circuit switcher CS9755 including foundation, stand, jumpers and protective relaying
- Eight (8) 138 kV switches 9749, 9751, 9753, 9761, 9763, 9769, 9771 and 9773 including foundations, stands and jumpers
- One (1) 138 kV mobile disconnect with switch 28988
- Two (2) 138 kV motor operated switches MO9758 and MO9759 including interrupter, foundation, stand and jumpers
- One (1) power transformer T2 with associated surge arresters, foundation, jumpers and protective relaying
- All T2 distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
- All T2 distribution circuit breakers including jumpers and protective relaying
- All T2 distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters and 24.9 kV operating and transfer bus
- One (1) load management system LM1 with fuses F5 and F7
- One (1) station service SS2 and associated fuses F3 and F6

LCRA TSC owns:

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

- Four (4) 138 kV switches 9739, 9743, 28979 and 28983
- Two (2) 138 kV circuit switchers CS9745 and CS28985 with bypass switch 9747 and 28987, foundations, stands and protective relaying
- Two (2) power transformers T1 and T3 with associated surge arresters, foundation, jumpers and protective relaying
- One (1) T1 12.5 kV disconnect switch SW55 from City of Seguin distribution
- One (1) T3 12.5 kV disconnect switch SW175 from City of Seguin distribution
- One (1) 24.9 kV bus potential transformer PT3 and associated fuse F4
- One (1) control house with battery, battery charger and appurtenances
- One (1) station service SS1 and associated fuse F1
- Substation property, ground grid, gravel, fencing and appurtenances

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

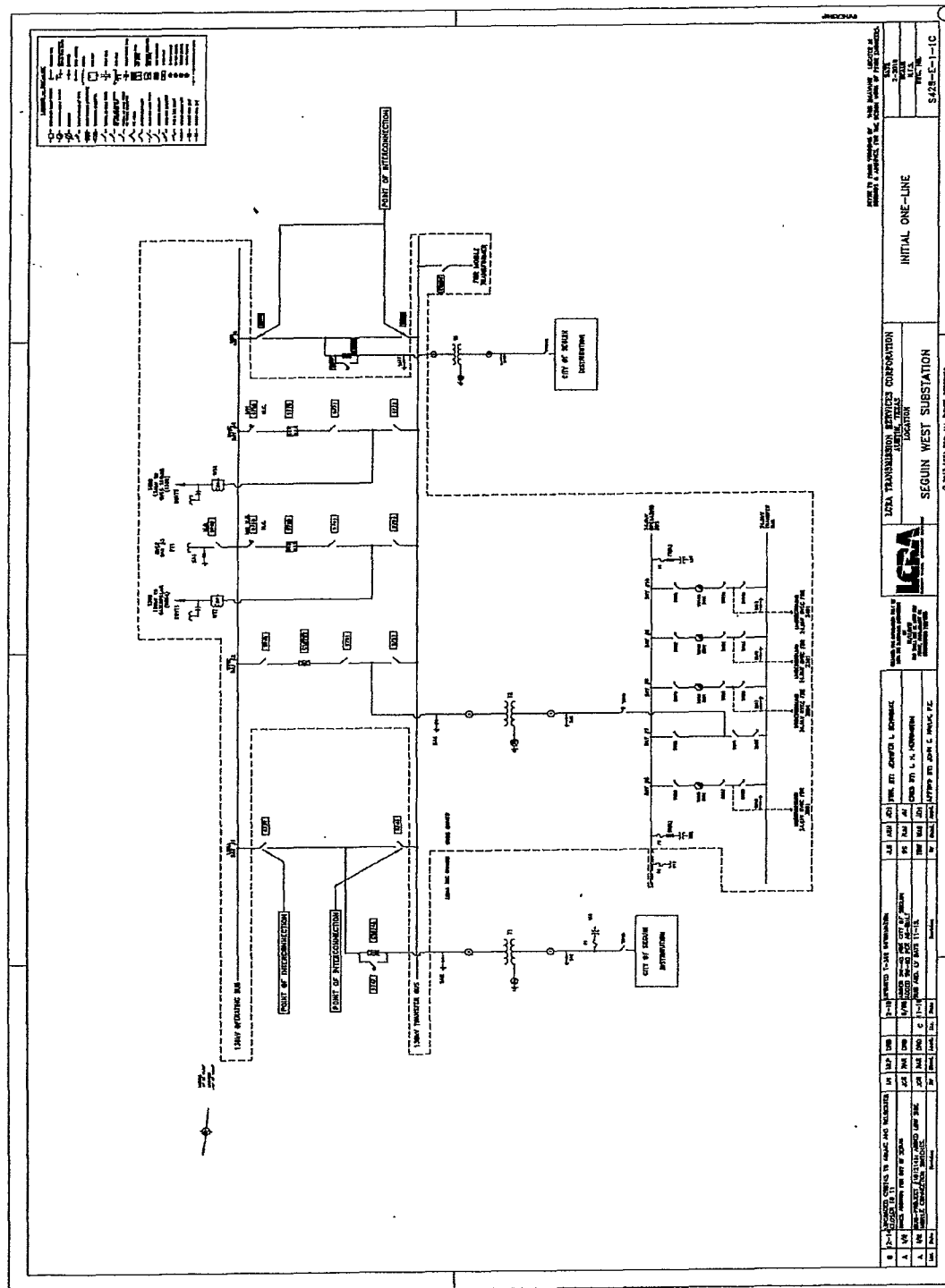
**11. Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns.

**12. Other Terms and Conditions:**

- LCRA TSC will share access to the Seguin West Substation by allowing GVEC 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 Seguin West Substation control house. Access is obtained by calling LCRA TSC's System Operations Control Center using the intercom at the door of the control house.
- GVEC will provide tripping and close inhibit contacts from its 138 kV bus differential & breaker failure relaying panel to LCRA TSC's 138 kV circuit switcher CS9745 relaying panel.
- GVEC will provide tripping and close inhibit contacts from its 138 kV bus differential & breaker failure relaying panel to LCRA TSC's 138 kV circuit switcher CS28985 relaying panel.
- LCRA TSC will provide breaker failure initiate contacts from its circuit switcher CS9745 relaying panel to GVEC's 138 kV bus differential & breaker failure relaying panel.
- LCRA TSC will provide breaker failure initiate contacts from its circuit switcher CS28985 relaying panel to GVEC's 138 kV bus differential & breaker failure relaying panel.
- LCRA TSC and GVEC 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 GVEC 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 GVEC with floor space (as necessary) in its control house for the installation of GVEC required relay panel boards and equipment.
- GVEC will provide LCRA TSC access to its station service SS2 as needed.
- LCRA TSC will provide GVEC access to its station service SS1 as needed.
- Seguin West 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

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## Amendment No 13



**FACILITY SCHEDULE NO. 26**  
**Amendment No. 13**

1. **Name:** Deer Creek Substation
2. **Facility Location:** The Deer Creek Substation is located at 11808 Alternate 90 Seguin, Guadalupe County, Texas 78115.
3. **Points of Interconnection:** There are three (3) Points of Interconnection in the Deer Creek Substation generally described as:
  - where the LCRA TSC 138 kV operating bus terminal connector bolts to the four hole pad on GVEC switch 25099.
  - where the LCRA TSC 138 kV operating bus terminal connector bolts to the four hole pad on GVEC switch 25089.
  - where the GVEC 69 kV operating bus terminal connector bolts to the four hole pad on LCRA TSC switch 25069.
4. **Transformation Services Provided by LCRA TSC:** No
5. **Metering Services Provided by LCRA TSC:** No
6. **Delivery Voltage:** 69 kV/138 kV
7. **Metered Voltage and Location:** N/A
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

GVEC owns:

- The following transmission lines comprised of conductors, insulators, and connecting hardware:
  - Deer Creek to Seguin 138 kV transmission line
  - Deer Creek to Nash Creek 69 kV transmission line
- One (1) 138 kV A-frame dead end structure, insulators, hardware and foundations
- Four (4) 138 kV switches 25089, 25099, 25101 and 25103
- Two (2) 138 kV circuit breaker 25090, 25100 including foundation, jumpers, and protective relaying
- One (1) 138 kV coupling capacitor voltage transformer CCVT1
- Two (2) 138 kV surge arresters: SA2 (T606) and SA6 (AT1)
- One (1) 69 kV A-frame dead end structure, insulators, hardware and foundations
- Two (2) 69 kV circuit breaker 25060 and 25080 including foundation, jumpers, and protective relaying
- One (1) 69 kV Operating Bus #1 including supports, foundations, insulators and hardware

- One (1) 69 kV bus differential & breaker failure relaying scheme
- Four (4) 69 kV switches 25059, 25061, 25063 and 25079
- One (1) 69 kV coupling capacitor voltage transformer CCVT6
- Three (3) 69 kV surge arresters: SA5 (69 kV bus PTs); SA7 (AT1) and SA9 (T377)
- One (1) 69 kV bus potential transformer PT1
- One (1) 138/69 kV auto transformer AT1 with foundation, jumpers and protective relaying
- One (1) 15.3 kV MCOV surge arrester SA8 (AT1 tertiary)
- One (1) station service SS1 with high-side fuses F1; and 200A 240/120 Vac fused disconnect switch (FDS-1)
- 144-fiber OPGW with splice can and patch panel to Capote Substation

LCRA TSC owns:

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

- The following transmission lines comprised of conductors, insulators, and connecting hardware:
  - Deer Creek to AEP Darst Creek 69 kV transmission line
- One (1) 138 kV A-frame dead end structure, insulators, hardware and foundations
- One (1) 2 bay-69 kV A-frame dead end structure, insulators, hardware and foundations
- One (1) 138 kV operating bus including supports, foundations, insulators and hardware
- Two (2) 138 kV surge arresters SA1 (138 kV PVT1) and SA3 (T605)
- One (1) 138 kV power potential transformer PVT1 and 200A 240/120 Vac fused disconnect switch (FDS-2)
- One (1) 69 kV circuit breaker 25070 with foundation, jumpers and protective relaying
- Three (3) 69 kV switches 25069, 25071 and 25073
- One (1) 69 kV surge arrester SA4 (T538)
- One (1) 138 kV circuit breaker 25110 with foundation, jumpers and protective relaying
- Three (3) 138 kV switches 25109, 25111 and 25113
- One (1) 138 kV coupling capacitor voltage transformer CCVT2
- One (1) 138 kV bus differential & breaker failure relaying scheme
- One (1) control house with battery, battery charger, AC/DC panels, and appurtenances
- 48-OPGW with splice can and patch panel
- 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.

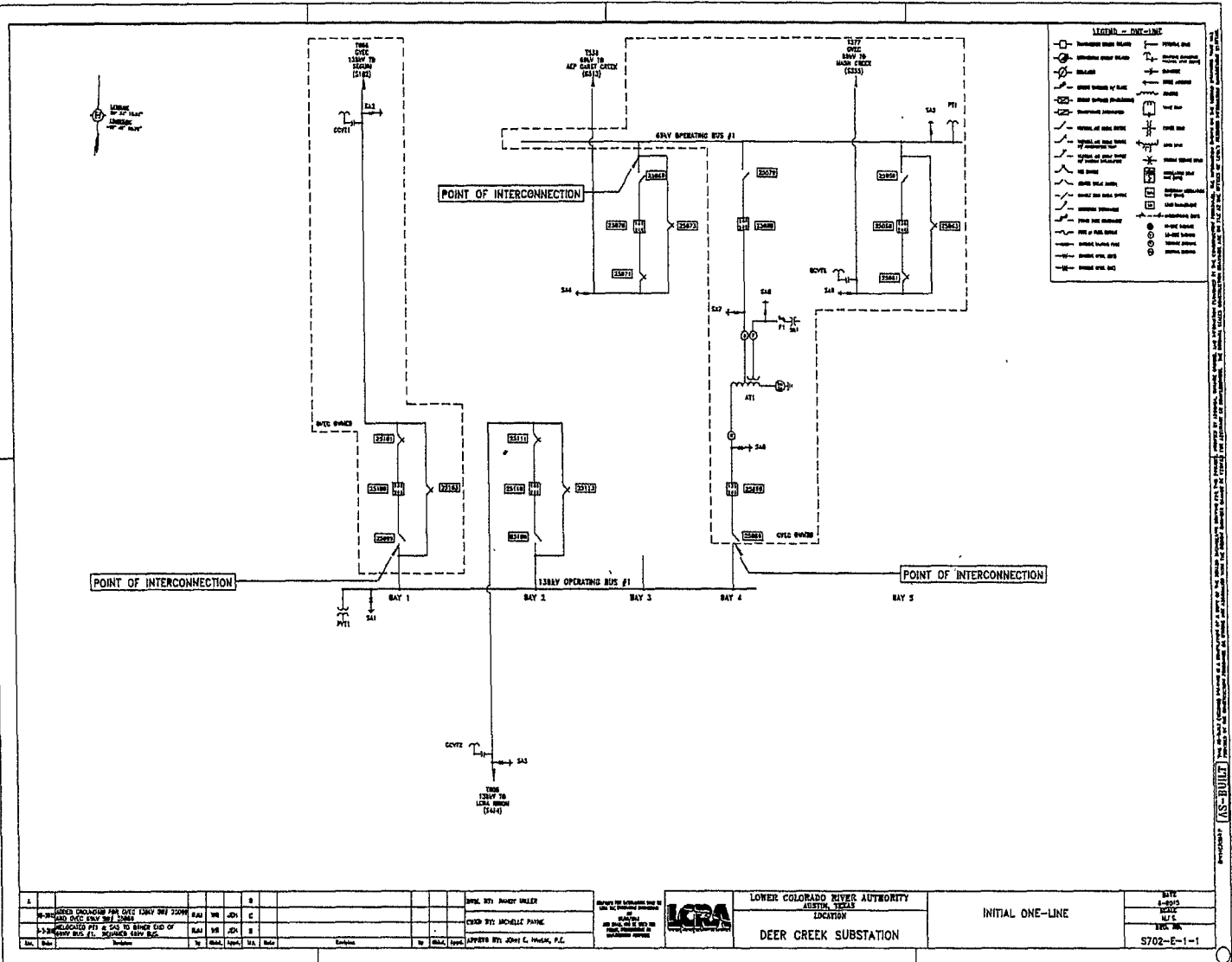


**12. Other Terms and Conditions:**

- LCRA TSC will share access to the Deer Creek Substation by allowing GVEC 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 Deer Creek Substation control house. Access is obtained by calling LCRA TSC's System Operations Control Center using the intercom at the door of the control house.
- GVEC will provide tripping and close inhibit contacts from its 69 kV bus differential & breaker failure relaying panel to LCRA TSC's circuit breaker 25070 relaying panel.
- LCRA TSC will provide tripping and close inhibit contacts from its 138 kV bus differential & breaker failure relaying panel to GVEC's circuit breakers 25100 and 25090 relaying panels.
- LCRA TSC will provide breaker failure initiate contacts from its 69 kV circuit breaker 25070 relaying panel to GVEC's 69 kV bus differential & breaker failure relaying panel.
- GVEC will provide breaker failure initiate contacts from its 138 kV circuit breakers 25100 and 25090 relaying panel to LCRA TSC's 138 kV bus differential & breaker failure relaying panel.
- GVEC will allow LCRA TSC use of its station service transformer (SS1), with LCRA TSC supplying the conduit and cable from GVEC's station service transformer low-side disconnect switch (FDS-1) to the LCRA TSC control house.
- LCRA TSC will provide GVEC 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 GVEC with floor space (as necessary) in its control house for the installation of GVEC required relay panel boards and equipment.
- LCRA TSC and GVEC will share fibers with each other from their OPGW networks as necessary and available for system operation and protection.
- Deer Creek 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

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## Amendment No. 13



**FACILITY SCHEDULE NO. 29**  
Amendment No. 13

1. **Name:** Meadow Lake Substation
2. **Facility Location:** The Meadow Lake Substation is located at a location to be specified later.
3. **Points of Interconnection:** There is (1) Point of Interconnection in the Meadow Lake Substation generally described as:
  - where LCRA TSC's jumper from the 138 kV ring bus attaches to the four hole pad on GVEC's switch 28674.
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 inside transformer T1. The bus potential transformers are located on the 24.9 kV operating buses.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**  
GVEC owns:
  - The Meadow Lake Substation including, but not limited to, the following items:
    - One (1) 138 kV disconnect switch 28674
    - One (1) 138kV mobile transformer connection point with disconnect switch 28648
    - One (1) 138 kV circuit switcher CS28675 with bypass switch 28677, foundation, stand and jumpers
    - One (1) power transformer T1 with associated surge arresters, foundation, jumpers and protective relaying
    - All T1 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
    - All T1 distribution circuit breakers with foundations, jumpers and protective relaying
    - All 24.9 kV distribution feeders
    - Two (2) station service SS1 and SS2 with fuses F1 and F2
    - One (1) MTU, MTU1 with fused disconnect F4

- One (1) control house with batteries, battery charger and appurtenances
- Substation property, ground grid, gravel, fencing and other appurtenances

LCRA TSC owns:

- Two (2) 138 kV dead end structures and foundations
- One (1) 138 kV ring bus including structures, insulators, foundations and jumpers
- Three (3) 138 kV circuit breakers 28630, 28640 and 28650 with foundations, jumpers and protective relaying
- Six (6) 138 kV switches 28629, 28631, 28639, 28641, 28649 and 28651
- Three (3) 138 kV surge arresters SA3, SA4 and SA10
- Two (2) coupling capacitor voltage transformers CCVT1 and CCVT2
- One (1) power voltage transformer PVT1
- One (1) meter panel with meters
- One (1) 138 kV transformer bus differential and breaker failure relay scheme

**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:**

- GVEC and LCRA TSC are to share access to the substation by GVEC and LCRA TSC locks in the gate and on the control house doors.
- GVEC will supply and allow LCRA TSC use of its 24.9 kV bus potential transformer PT2 for metering.
- GVEC 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 GVEC's 138 kV circuit switcher CS28675 relaying panel.
- GVEC will provide breaker failure initiate contacts from its circuit switcher CS28675 relaying panel to LCRA TSC's 138 kV transformer bus differential & breaker failure relaying panel.
- LCRA TSC and GVEC shall design, provide, and coordinate their respective protection system equipment so that adjacent zones of protection overlap, in accordance with ERCOT Nodal Operating Guides.
- GVEC 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.
- GVEC will provide LCRA TSC with floor space (as necessary) in its control house for the installation of LCRA TSC required relay panel boards and equipment.

# MEADOW LAKE ONE-LINE DIAGRAM

Amendment No. 13

