



Control Number: 35077



Item Number: 371

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**Project No. 35077**

2013 MAY -1 PM 2: 57

FILED IN THE OFFICE OF THE  
CLERK OF THE SUPERIOR COURT

**Sixth Amendment to**

**INTERCONNECTION AGREEMENT**

**Between**

**Guadalupe Valley Electric Cooperative, Inc.**

**and**

**LCRA Transmission Services Corporation**

**Dated**

**April 25, 2013**

## SIXTH AMENDMENT TO INTERCONNECTION AGREEMENT

This Sixth Amendment ("Amendment") is made and entered into this 25<sup>th</sup> day of April, 2013, between the Guadalupe Valley Electric Cooperative, Inc. ("GVEC") and the LCRA Transmission Services Corporation ("LCRA TSC") collectively referred to hereinafter as the Parties.

**WHEREAS**, the 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 (collectively, as amended, the "Agreement"); and

**WHEREAS**, the design of Nordheim West Substation was modified after execution of Amendment No. 2, to include the addition of a capacitor bank in 69 kV bay 3, the move of the mobile connection to 69 kV bay 4 and the connection of GVEC equipment to 69 kV bay 5; and

**WHEREAS**, LCRA TSC is adding the Highway 123 Substation where LCRA TSC and GVEC will both have transmission equipment

**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 Sixth Amendment is hereby added to the Agreement in lieu thereof.
2. Facility Schedule No. 20 (including the diagrams attached thereto) is deleted in its entirety and Facility Schedule No. 20 attached to this Sixth Amendment is hereby added to the Agreement in lieu thereof.
3. Facility Schedule No. 20 (including the diagrams attached thereto) attached to this Sixth Amendment will become effective upon execution of this Sixth Amendment by the Parties.
4. Facility Schedule No. 24 (including the diagrams attached thereto) attached to this Sixth Amendment is hereby added to the Agreement.
5. Facility Schedule No. 24 (including the diagrams attached thereto) attached to this Sixth Amendment will become effective upon execution of this Sixth 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 Sixth 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.

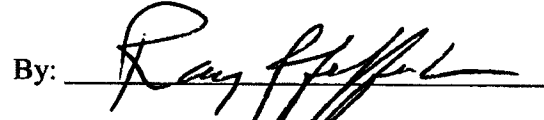
By: 

Name: Robert B. Christmas

Title: Engineering & Operations Manager  
and Chief Operating Officer

Date: APRIL 25, 2013

LCRA TRANSMISSION SERVICES  
CORPORATION

By: 

Name: Ray Pfefferkorn, P.E.

Title: LCRA Transmission  
Engineering Manager

Date: 4/18/13



**Exhibit A**  
**Amendment No. 6**

<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	8/26/2011
2	Geronimo (3)	138 kV	2/8/2011
3	Gonzales (2)	138 kV	2/8/2011
4	Hallettsville (2)	138 kV	2/8/2011
5	FM 237 Yorktown	69 kV	2/8/2011
6	Marion (2)	138 kV	8/26/2011
7	LCRA Nixon (3)	69 kV	2/8/2011
8	Parkway (6)	138 kV	2/8/2011
9	Schumansville (1)	138 kV	2/8/2011
10	Seguin (6)	138 kV	2/8/2011
11	Seguin West (6)	138 kV	2/8/2011
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	2/8/2011
17	York Creek (1)	138 kV	2/8/2011
18	Cheapside (2)	138 kV	2/8/2011
19	Pilot Grove (2)	138 kV	8/26/2011
20	Nordheim West (1)	69 kV	Date of 6 <sup>th</sup> amendment
21	Lost Creek (3)	69 kV	2/16/2012
22	Mont (1)	138 kV	2/16/2012
23	Lindenau (1)	138 kV	2/16/2012
24	Highway 123 (4)	138 kV	Date of 6 <sup>th</sup> amendment
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## FACILITY SCHEDULE NO. 20

### Amendment No. 6

1. **Name:** Nordheim West Substation
2. **Facility Location:** The Nordheim West Substation is located at 601 Gilbert Mueller Road, Nordheim, Texas 78141 .
3. **Points of Interconnection:** There is (1) Point of Interconnection in the Nordheim West Substation generally described as:
  - where the 69 kV operating bus connector bolts to the four hole pad on switch 23964
4. **Transformation Services Provided by LCRA TSC:** No
5. **Metering Services Provided by LCRA TSC:** Yes
6. **Delivery Voltage:** 69 kV
7. **Metered Voltage and Location:** The metering voltage is 24.9 kV. The metering current transformer is located inside T-1. 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 Nordheim West Substation including, but not limited to, the following items:

  - One (1) circuit switcher CS-23965 with associated disconnect switch 23964, protective relaying panel utilizing tripping and close inhibit contacts from LCRA TSC's Bus Differential & Breaker Failure relaying panel and providing breaker failure initiate contacts for LCRA TSC's use in its breaker failure relaying scheme
  - One (1) 138 kV mobile disconnect switch 23968 (operated at 69 kV)
  - One (1) power transformer T-1 with associated surge arresters, 138 kV (operated at 69 kV)-2000:5 multi ratio bushing current transformers for use by LCRA TSC's bus differential relaying scheme and 24.9 kV-1200:5 multi ratio (metering accuracy) bushing current transformers for use by LCRA TSC's metering circuit
  - One (1) 24.9 kV transformer bus disconnect switch NW01
  - 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) MTU, MTU1 with associated fused disconnects F4
- Station service, SS-1 and fuse F-1
- Control house (24' x 36')
- Batteries and battery charger
- Substation property ground grid, gravel, fencing and other appurtenances

LCRA TSC owns:

- Two (2) 138 kV dead-end structures, foundations, insulators and jumpers
- Two (2) 69 kV bus potential transformers PT1 and PT2
- Two 69 kV surge arresters SA1 and SA2
- 138 kV bus including support structures, foundations and jumpers
- Two (2) 138 kV circuit breakers 23960 and 23970 including jumpers, protective relay packages and foundations
- Six (6) 138 kV disconnect switches 23959, 23961, 23963, 23969, 23971, and 23973
- One (1) motor operated capacitor bank disconnect switch 24459
- One (1) 69 kV bus differential & breaker failure relaying scheme utilizing GVEC supplied 138 kV (operated at 69 kV)-2000:5 multi ratio bushing current transformers from power transformer T-1 and breaker failure initiate contacts from GVEC's circuit switcher CS-23965 relaying panel
- One (1) metering package utilizing GVEC supplied 24.9 kV-1200:5 multi ratio (metering accuracy) bushing current transformers from power transformer T-1 and GVEC supplied 24.9 kV bus potential transformer PT-3

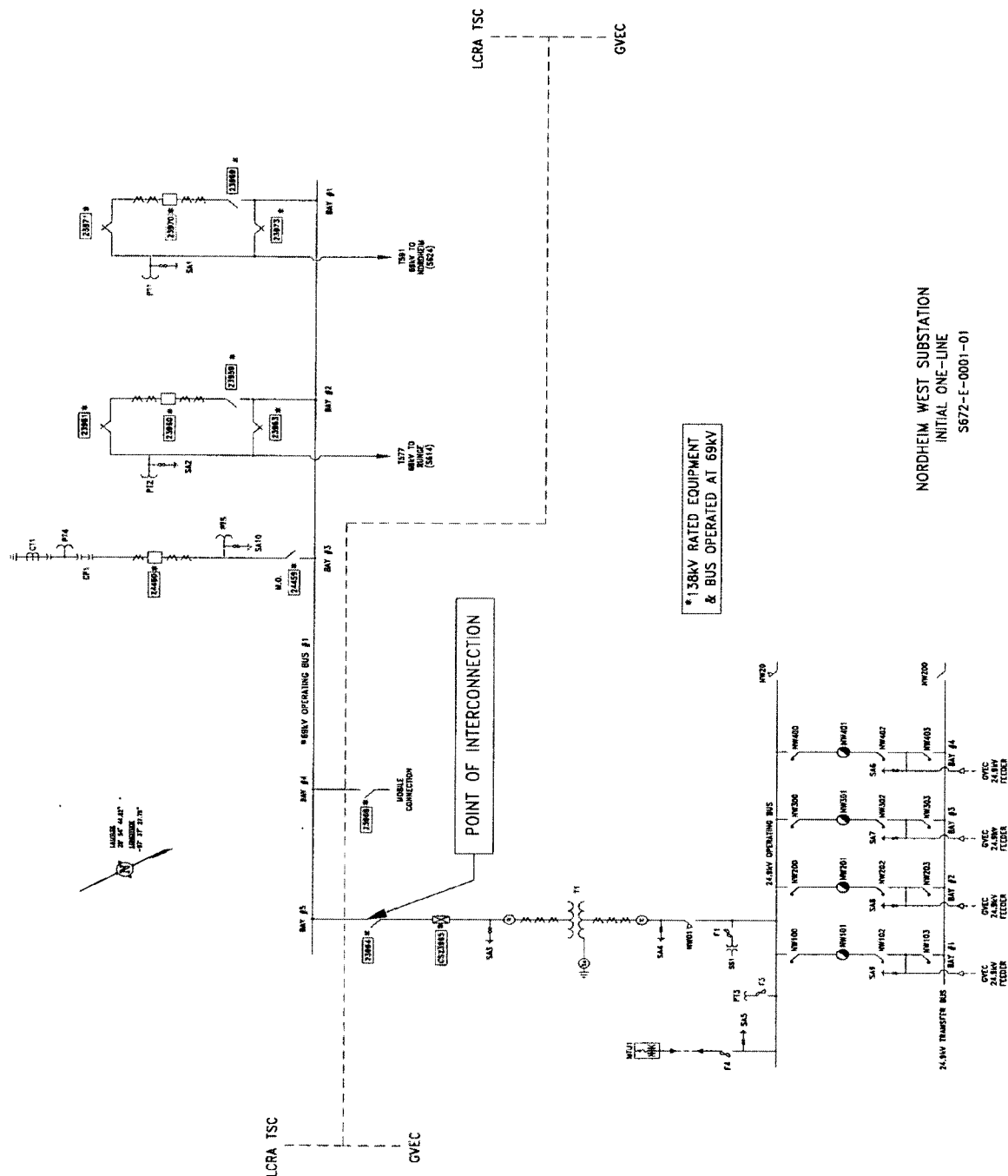
All 138 kV equipment is being operated at 69 kV.

- 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 LCRA TSC locks in the gate and in the control house doors.
  - GVEC will purchase and provide to LCRA TSC the necessary transmission line easements into the substation in a form acceptable to LCRA TSC.
  - GVEC will allow LCRA TSC use of its 24.9 kV bus potential transformer PT-3 for metering.
  - GVEC will allow LCRA TSC use of transformer T-1 metering and relaying bushing current transformers for its metering and bus differential relaying scheme.

- LCRA TSC will provide tripping and close inhibit contacts from its Bus Differential & Breaker Failure relaying panel to GVEC's circuit switcher CS23965 relaying panel.
- GVEC will provide breaker failure initiate contacts from its circuit switcher CS23965 relaying panel to LCRA TSC's 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. Panel boards containing the OCPD may belong to either GVEC (if space is available) or LCRA TSC
- GVEC will provide LCRA TSC with floor space (as available and as necessary) in its control house for the installation of LCRA TSC required relay panel boards and equipment.



## Amendment No. 6



NORDHEIM WEST SUBSTATION  
INITIAL ONE-LINE  
S672-E-0001-01

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**FACILITY SCHEDULE NO. 24**  
**Amendment No 6**

1. **Name:** Highway 123 Substation
2. **Facility Location:** The Highway 123 Substation is located off of Lange Road, Guadalupe County, Texas.
3. **Points of Interconnection:** There are four (4) Point of Interconnection in the Highway 123 Substation generally described as:
  - where the LCRA TSC 138 kV Operating Bus #1 connects to the 4 hole pad on the GVEC 138 kV disconnect switch 24759.
  - where the LCRA TSC 138 kV Operating Bus #1 connects to the 4 hole pad on the GVEC 138 kV disconnect switch 24789.
  - where the LCRA TSC 138 kV Operating Bus #2 connects to the 4 hole pad on the GVEC 138 kV disconnect switch 24779.
  - where the LCRA TSC 138 kV Operating Bus #2 connects to the 4 hole pad on the GVEC 138 kV disconnect switch 24809.
4. **Transformation Services Provided by LCRA TSC:** No
5. **Metering Services Provided by LCRA TSC:** No
6. **Delivery Voltage:** 138 kV
7. **Metered Voltage and Location:** N/A
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

GVEC ownership includes but is not limited to the following items:

- The following 138 kV transmission lines comprised of conductors, insulators, and connecting hardware:
  - Highway 123 to Hickory Forest transmission line
  - Highway 123 to New Berlin transmission line
- Two (2) 138 kV dead-end structures, foundations, insulators and jumpers
- Two (2) 138 kV A-Frame structures, foundations, insulators and jumpers
- Eight (8) 138 kV disconnect switches 24759, 24771, 24779, 24781, 24789, 24791, 24801 and 24809

- Four (4) 138 kV circuit breakers 24770, 24780, 24790 and 24800 including foundations, jumpers, 138 kV-2000:5 multi ratio bushing current transformers for use by LCRA TSC's bus differential relaying scheme, protective relay panels utilizing tripping and close inhibit contacts from LCRA TSC's Bus Differential & Breaker Failure relaying panel and providing breaker failure initiate contacts for LCRA TSC's use in its breaker failure relaying scheme
- Two (2) 138 kV surge arresters SA2 and SA3
- Two (2) 138 kV coupling capacitor voltage transformers CCVT2 and CCVT3

LCRA TSC owns: The Highway 123 Substation including, but not limited to the following items:

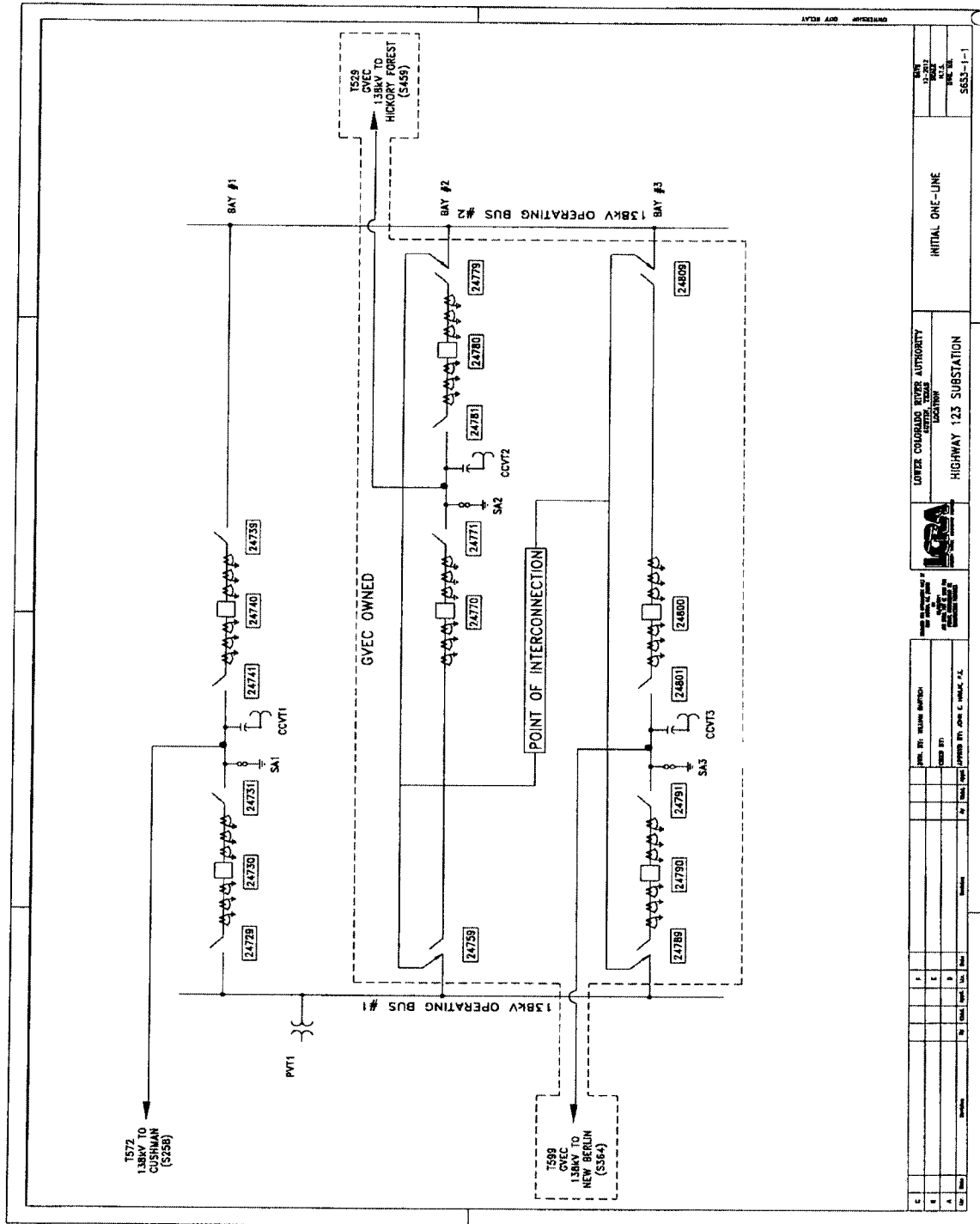
- The following 138 kV transmission lines comprised of conductors, insulators, and connecting hardware:
  - Highway 123 to Cushman transmission line
- One (1) 138 kV dead-end structures, foundations, insulators and jumpers
- One (1) 138 kV A-Frame structures, foundations, insulators and jumpers
- 138 kV operating buses #1 and #2 including structures, insulators, foundations and jumpers
- Four (4) 138 kV disconnect switches 24729, 24731, 24739 and 24741
- Two (2) 138 kV circuit breakers 24730 and 24740 including jumpers, protective relay packages and foundations
- One (1) 138 kV surge arresters SA1
- One (1) 138 kV coupling capacitor voltage transformers CCVT1
- One (1) 138 kV power voltage transformer PVT1 (station service)
- One (1) RTU
- One (1) 138 kV bus differential & breaker failure relaying scheme utilizing GVEC supplied 138 kV-2000:5 multi ratio bushing current transformers and breaker failure initiate contacts from GVEC's circuit breakers 24770, 24780, 24790 and 24800 relaying panels
- Control house and battery bank
- 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:**
  - GVEC and LCRA TSC are to share access to the substation by LCRA TSC locks in the gate and in the control house doors.
  - GVEC will allow LCRA TSC use of circuit breakers 24770, 24780, 24790 and 24800 bushing current transformers for its bus differential relaying scheme.

- LCRA TSC will provide tripping and close inhibit contacts from its Bus Differential and Breaker Failure relaying panel to GVEC's circuit breakers 24770, 24780, 24790 and 24800 relaying panels.
- GVEC will provide breaker failure initiate contacts from its circuit breakers 24770, 24780, 24790 and 24800 relaying panels to LCRA TSC's 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. Panel boards containing the OCPD may belong to either LCRA TSC (if space is available) or GVEC.
- LCRA TSC will provide GVEC with floor space (as available and as necessary) in its control house for the installation of GVEC required relay panel boards and equipment.

# HIGHWAY 123 ONE-LINE DIAGRAM

Amendment No. 6



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