

Control Number: 35077



Item Number: 574

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**PUC Project No. 35077**

FILED 2015 JUL 23  
PUC PROJECT NO. 35077

**Amendment No. 15**

**INTERCONNECTION AGREEMENT**

**Between**

**LCRA Transmission Services Corporation**

**and**

**Oncor Electric Delivery Company, LLC**

**Dated**

**July 22, 2015**

574

**AMENDMENT TO  
INTERCONNECTION AGREEMENT**

This Amendment No. 15 ("Amendment") is made and entered into this 22<sup>ND</sup> day of JULY, 2015, between Oncor Electric Delivery Company LLC ("Oncor"), and LCRA Transmission Services Corporation ("LCRA TSC"), hereinafter individually referred to as "Party" and collectively referred to as "Parties".

**WHEREAS**, LCRA TSC and Oncor entered into that certain Interconnection Agreement executed October 17, 1997, as amended (the "Agreement");

**WHEREAS**, LCRA TSC will install a 3 breaker ring bus at Pleasant Farms Substation;

**WHEREAS**, LCRA TSC acquired ownership of certain 138 kV transmission line through-flow facilities at Georgetown East Substation; and

**WHEREAS**, LCRA TSC acquired ownership of certain 138 kV transmission line through-flow facilities at Georgetown South Substation,

**NOW, THEREFORE**, in consideration of the mutual promises and undertakings herein set forth, the Parties agree to amend the Agreement as follows:

1. Exhibit A attached to the Agreement is deleted in its entirety and Exhibit A attached to this Amendment is hereby added to the Agreement.
2. Exhibit A attached to this Amendment will become effective upon execution of this Amendment by the Parties.
3. Facility Schedule No. 22 attached to the Agreement is hereby deleted in its entirety and Facility Schedule No. 22 attached to this Amendment is hereby added to the Agreement.
4. Facility Schedule No. 22 attached to this Amendment will become effective upon execution of this Amendment by the Parties.
5. Facility Schedule No. 24 attached to this Amendment is hereby added to the Agreement.
6. Facility Schedule No. 24 attached to this Amendment will become effective upon execution of this Amendment by the Parties.
7. Facility Schedule No. 25 attached to this Amendment is hereby added to the Agreement.
8. Facility Schedule No. 25 attached to this Amendment will become effective upon execution of this 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 Amendment to be executed in several counterparts, each of which shall be deemed an original but all shall constitute one and the same instrument.

ONCOR ELECTRIC DELIVERY COMPANY  
LLC

By: 

Name: Terry Preuninger

Title: Sr. Director – Transmission Services

Date: 7/22/15

LCRA TRANSMISSION SERVICES  
CORPORATION

By: 

Name: Ray Pfefferkorn, P.E.

Title: LCRA Transmission Engineering  
Manager

Date: 7/8/15



## EXHIBIT A

### LIST OF FACILITY SCHEDULES AND POINTS OF INTERCONNECTION

FACILITY SCHEDULE NO.	LOCATION OF POINT(S) OF INTERCONNECTION (# of Points)	INTERCONNECTION VOLTAGE (kV)	EFFECTIVE DATE OR SUBSEQUENT AMENDMENT IN THE INTERCONNECTION AGREEMENT*
1	Round Rock-Chief Brady (1)	138	October 17, 1997
2	Round Rock-Wells Branch (2)	138	October 29, 2012
3	Copperas Cove Substation (1)	138	October 27, 2000
4	Elgin Substation (1)	138	November 19, 1999
5	Round Rock South-Wells Branch (1)	138	October 29, 2012
6	Camp Bowie Substation (1)	138	October 27, 2000
7	Gilleland Creek Substation (2)	138	October 29, 2012
8	Mitchell-Sterling County (1)	345	April 28, 2008
9	Brown Switching Station (2)	345	February 17, 2012
10	Spraberry (1)	138	October 29, 2012
11	Midkiff (2)	138	Nov 22, 2013
12	Upton (1)	138	October 5, 2004
13	Crane (1)	138	October 5, 2004
14	Arco Tap (1)	138	October 5, 2004
15	Odessa EHV (1)	138	October 5, 2004
16	Bitter Creek Substation (2)	345	October 31, 2003
17	Brownwood-Firerock (1)	138	October 29, 2012
18	South Abilene-Eskota (1)	138	October 5, 2004
19	Crane East Substation (2)	138	October 27, 2006
20	Hutto Switching Station (2)	345	October 29, 2012
21	Gabriel Substation (2)	138	October 29, 2012
22	Pleasant Farms Substation (1)	138	Date of 15th amendment
23	Benedum Substation (2)	138	Nov 22, 2013
24	Georgetown East Substation (2)	138	Date of 15 <sup>th</sup> amendment
25	Georgetown South Substation (2)	138	Date of 15 <sup>th</sup> amendment

## FACILITY SCHEDULE NO. 22

1. **Name:** Pleasant Farms Point of Interconnection
2. **Facility Location:** The Pleasant Farms Point of Interconnection is located in Ector County near the community of Pleasant Farms approximately 7.6 miles south of Oncor's Odessa EHV Switching Station between structures #201 and #203 in LCRA TSC's 138 kV transmission line from Odessa EHV Switching Station to LCRA TSC's Crane Substation.
3. **Points of Interconnection:** The Point of Interconnection is located at LCRA TSC's dead-end structure located inside LCRA TSC's Pleasant Farms Substation where LCRA TSC's jumpers at LCRA TSC's dead-end structure connect to Oncor's Pleasant Farms Substation – Pegasus and Pegasus South substations 138 kV transmission line (approximately 6 miles from Pleasant Farms Substation to Pegasus Substation and approximately 9.5 miles from Pleasant Farms Substation to South Pegasus Substation).
4. **Transformation Services Provided:** No
5. **Metering Services Provided:** 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:**

Facilities owned by LCRA TSC: Pleasant Farms Substation, including, but not limited to the following:

- The existing Odessa EHV Switching Station – Crane Substation 138 kV transmission line
- Dead-end structure(s) with associated foundations, insulators and jumpers to terminate LCRA TSC's Odessa EHV Switching Station - Crane Substation 138 kV transmission line and Oncor's Pleasant Farms Substation – Pegasus and Pegasus South substations 138 kV transmission line
- Jumpers from LCRA TSC's conductors to the Point of Interconnection on Oncor's 138 kV transmission line
- 138 kV ring bus, bus supports, and associated foundations and insulators
- Nine (9) 138 kV switches #23029, #23031, #23032, #23039, #23041, #23042, #23049, #23051 and #23052
- Three (3) 138 kV circuit breakers #23030, #23040 and #23050 with foundations, jumpers and protective relay packages
- Three (3) 138 kV surge arresters, SA1, SA2 and SA3

- Three (3) 138 kV capacitor coupled voltage transformers CCVT1, CCVT2 and CCVT3
- Two (2) 138 kV wave traps WT1 and WT2 with associated tuners
- One (1) power potential transformer, PVT1
- Supervisory equipment, SCADA D20 RTU
- One (1) control house with batteries, battery charger and other appurtenances
- Substation property, ground grid, gravel, conduit, cable, fencing and other appurtenances

Facilities owned by Oncor:

- The Pleasant Farms Substation – Pegasus and Pegasus South substations 138 kV transmission line, including insulators and termination hardware to terminate this transmission line on LCRA TSC's dead-end structure at the Point of Interconnection

**10. Operational Responsibilities of Each Party:** Each Party will be responsible for the operation of the equipment it owns associated with the Point of Interconnection.

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

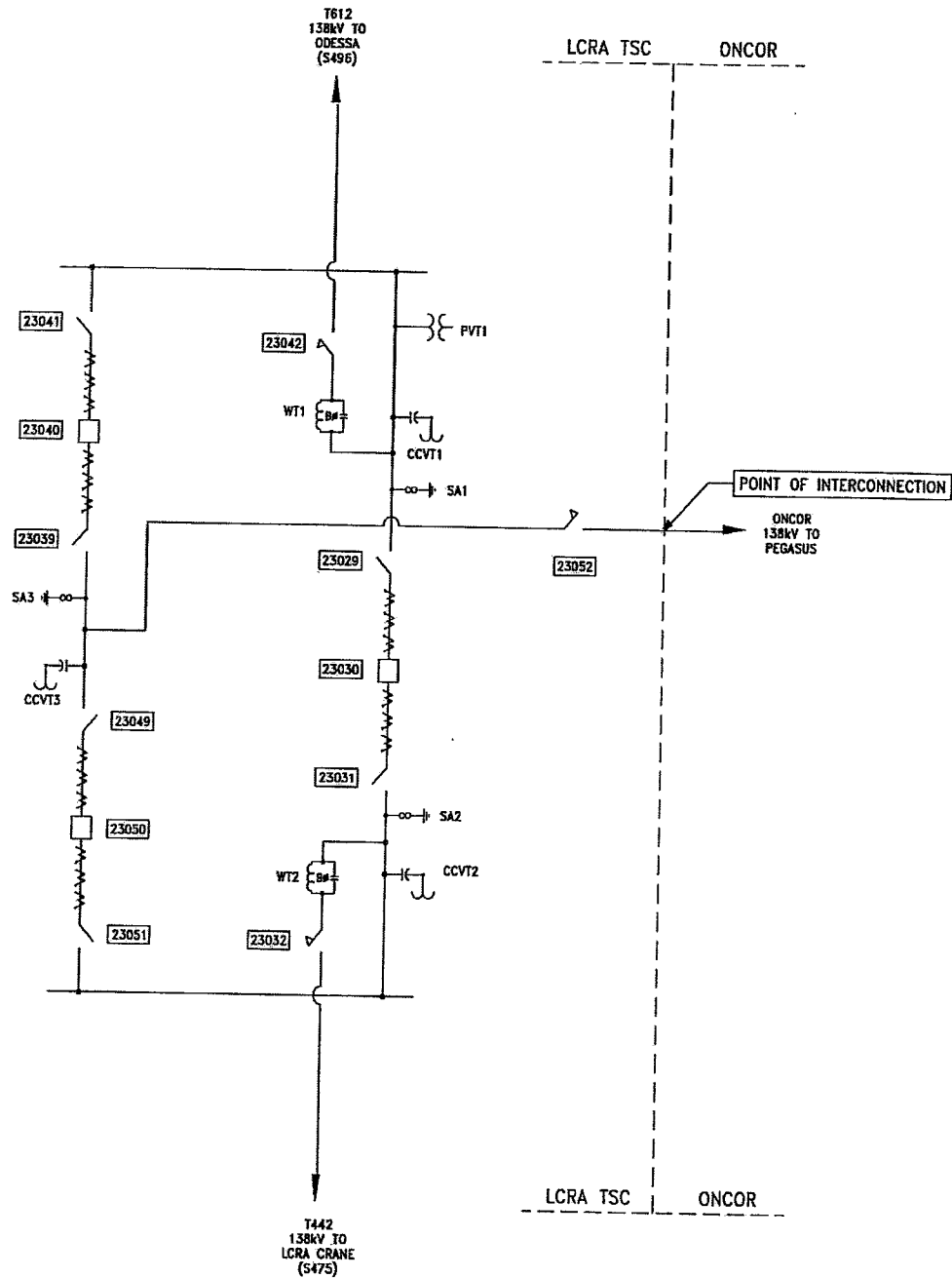
**12. Other Terms and Conditions:**

- LCRA TSC is in the process of rebuilding Pleasant Farms Substation. In its current configuration, the Pleasant Farms Point of Interconnection is provided by LCRA TSC from a three-switch tap arrangement (in-line switches #23031 and #23041 and tap line switch #23051) between structures #201 and #203 in LCRA TSC's 138 kV transmission line from Oncor's Odessa EHV Switching Station to LCRA TSC's Crane Substation. After the rebuild is completed, the Pleasant Farms Point of Interconnection will be provided by the LCRA TSC from a three-breaker ring bus arrangement consisting of the LCRA TSC facilities specified in Section 9 above and shown in the attached one line diagram.
- Oncor and LCRA TSC will each be responsible for all costs it incurs in connection with constructing, operating, and maintaining its facilities associated with the Point of Interconnection provided, however, that this Paragraph 12 is subject to any other provisions of this Agreement with respect to liability and indemnification and this Paragraph 12 shall not relieve either Party of its respective obligations under those provisions.
- LCRA TSC will monitor power and energy flows, device status, and bus voltage at Pleasant Farms Substation associated with the Point of Interconnection. LCRA TSC will provide such data to ERCOT in accordance with ERCOT Requirements.
- Each Party will conduct its activities associated with the Point of Interconnection in accordance with applicable laws, regulations, tariffs, and all binding documents developed by the Electric Reliability Council of Texas and the North American Electric Reliability Corporation ("Binding Documents").

To the extent that any provision of the Agreement, including the provisions of this Facility Schedule, is in conflict with any mandatory provision of the Binding Documents, such mandatory provision will prevail. Notwithstanding any provision of the Agreement to the contrary, to the extent any provision of the Agreement is in conflict with a provision of this Facility Schedule, such provision of this Facility Schedule will prevail.



# ONE-LINE DIAGRAM



PLEASANT FARMS SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM

FOR A COMPLETE ONE-LINE DIAGRAM OF THIS SUBSTATION  
REFER TO DRAWING S-670-E-0001-01

## FACILITY SCHEDULE NO. 24

1. **Name:** Georgetown East Substation
2. **Facility Location:** Georgetown East Substation is located at 2911 S.E. Inner Loop Drive, just northeast of the intersection of Inner Loop Drive and CR 110, in the city of Georgetown, Texas.
3. **Points of Interconnection:** There are two (2) 138 kV "Points of Interconnection" at Georgetown East Substation described as the points where LCRA TSC's jumpers connect to Oncor's Round Rock – Gabriel 138 kV transmission line ("Oncor's Transmission Line") at Oncor's in-line transmission structures #28/3 and #28/4 ("Oncor's In-Line Structures").
4. **Transformation Services Provided by LCRA TSC:** N/A
5. **Metering Services Provided by LCRA TSC:** N/A
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:**
  - Oncor owns:
    - Oncor's Transmission Line
    - Oncor's Transmission Line dead end hardware and insulators
    - Oncor's In-Line Structures
  - LCRA TSC owns:

The following facilities at Georgetown East Substation including, but not limited to:

    - Two in-line structures and two A-frame structures (see attached one line diagram)
    - Two 138 kV slack lines from Oncor's In-Line Structures to LCRA TSC's A-frame structures
    - 138 kV jumpers from LCRA TSC's slack lines to Oncor's Transmission Line
    - Four (4) 138 kV motor operated switches #19859, #19861, #19869 and #19879 mounted on switch structures in the substation 138 kV operating bus
    - 138 kV operating bus
    - SCADA and associated communication facilities to monitor and control LCRA TSC's facilities in Georgetown East Substation from LCRA TSC's Control Center
    - Substation property, ground grid, gravel, fencing and other appurtenances
10. **Operational Responsibilities of Each Party:**

- Oncor will be responsible for the operation of the equipment it owns.
- LCRA TSC will be responsible for the operation of the equipment it owns, provided that the operation of LCRA TSC's sectionalizing switches #19859, #19861, #19869 and #19879 will be coordinated with Oncor's system operator. LCRA TSC's sectionalizing switches will be operated in the normally closed position. No change will be made in the normal operation of the Points of Interconnection without the mutual agreement of the Parties.

11. **Maintenance Responsibilities of Each Party:** Each Party will be fully responsible for the maintenance of the equipment it owns. Maintenance of any facilities by either Party that will cause a deviation from normal power and energy flow at the Points of Interconnection will be scheduled in accordance with ERCOT requirements.

12. **Other Terms and Conditions:**

- Oncor and LCRA TSC will each be responsible for all costs it incurs in connection with constructing, operating, and maintaining its facilities associated with the Points of Interconnection provided, however, that this Paragraph 12 is subject to any other provisions of this Agreement with respect to liability and indemnification and this Paragraph 12 shall not relieve either Party of its respective obligations under those provisions.
- LCRA TSC will monitor power and energy flows, device status, and bus voltage at Georgetown East Substation associated with the Points of Interconnection. LCRA TSC will provide such data to ERCOT in accordance with ERCOT Requirements.
- Each Party will conduct its activities associated with the Points of Interconnection in accordance with applicable laws, regulations, tariffs, and all binding documents developed by the Electric Reliability Council of Texas and the North American Electric Reliability Corporation ("Binding Documents"). To the extent that any provision of the Agreement, including the provisions of this Facility Schedule, is in conflict with any mandatory provision of the Binding Documents, such mandatory provision will prevail. Notwithstanding any provision of the Agreement to the contrary, to the extent any provision of the Agreement is in conflict with a provision of this Facility Schedule, such provision of this Facility Schedule will prevail.

The diagram illustrates a power distribution system with the following components and labels:

- Top Section:**
  - ONCOR'S IN-LINE STRUCTURE #28/4
  - POINT OF INTERCONNECTION
  - ONCOR'S IN-LINE STRUCTURE #28/3
  - T223 ONCOR 138kV TO GABRIEL (S238)
  - T223 ONCOR 138kV TO GEORGETOWN SOUTH (S550)
  - ONCOR OWNED / LCRA TSC OWNED
  - LCRA TSC IN-LINE STRUCTURE
  - LCRA TSC A-FRAME STRUCTURE
- 138kV OPERATING BUS:**
  - M.O. 19869
  - M.O. 19861
  - M.O. 19879
  - M.O. 19859
- LCRA TSC OWNED / GEORGETOWN UTILITY SYSTEMS OWNED:**
  - M.O. 19864
  - M.O. 19854
  - CS19865
  - 19867
  - CS19855
  - 19857
- 12.5kV OPERATING BUSES:**
  - 12.5kV OPERATING T2 BUS:**
    - SA5
    - T2
    - SA6
    - PT4
    - GE25-1
    - GE25
    - GE25-2
    - PT6
  - 12.5kV OPERATING T1 BUS:**
    - SA3
    - T1
    - SA4
    - PT3
    - GE15-1
    - GE15
    - GE15-2
    - PT5
- Central Section:**
  - PAD MOUNTED 3S
  - ALTERNATE FEED
  - PRIMARY FEED
  - SA7
  - SS2
  - GE35-T2
  - GE35-T1
  - SA8
  - SS1
- 12.5kV TRANSFER BUS:**
  - GE20-1, GE40-1, GE60-1, GE80-1
  - GE20-2, GE40-2, GE60-2, GE80-2
  - GE20-3, GE40-3, GE60-3, GE80-3
  - SA20, SA40, SA60, SA80
  - GE10-1, GE30-1, GE50-1, GE70-1
  - GE10-2, GE30-2, GE50-2, GE70-2
  - GE10-3, GE30-3, GE50-3, GE70-3
  - SA10, SA30, SA50, SA70
- Other Labels:**
  - FUTURE
  - GE20, GE40, GE60, GE80, GE10, GE30, GE50, GE70

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## FACILITY SCHEDULE NO. 25

1. **Name:** Georgetown South Substation
2. **Facility Location:** Georgetown South Substation is located at 950 Rabbit Hill Road in the city of Georgetown, Williamson County, Texas 78626.
3. **Points of Interconnection:** There are two (2) 138 kV "Points of Interconnection" at Georgetown South Substation described as the points where LCRA TSC's jumpers connect to Oncor's Round Rock – Gabriel 138 kV transmission line ("Oncor's Transmission Line") at Oncor's in-line structures #32/3 and #32/4 ("Oncor's In-Line Structures").
4. **Transformation Services Provided by LCRA TSC:** N/A
5. **Metering Services Provided by LCRA TSC:** N/A
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:**

Oncor owns:

- Oncor's Transmission Line
- Oncor's Transmission Line dead end hardware and insulators
- Oncor's In-Line Structures

LCRA TSC owns:

The following facilities at Georgetown South Substation including, but not limited to:

- Two A-frame structures (see attached one line diagram)
- Two 138 kV slack lines from Oncor's In-Line Structures to LCRA TSC's A-frame structures
- 138 kV jumpers from LCRA TSC's slack lines to Oncor's Transmission Line
- Four (4) 138 kV motor operated switches #19889, #19891, 19899 and 19909 mounted on switch structures in the substation 138 kV operating bus
- 138 kV operating bus
- SCADA and associated communication facilities to monitor and control LCRA TSC's facilities in Georgetown South Substation from LCRA TSC's Control Center
- Substation property, ground grid, gravel, fencing and other appurtenances

**10. Operational Responsibilities of Each Party:**

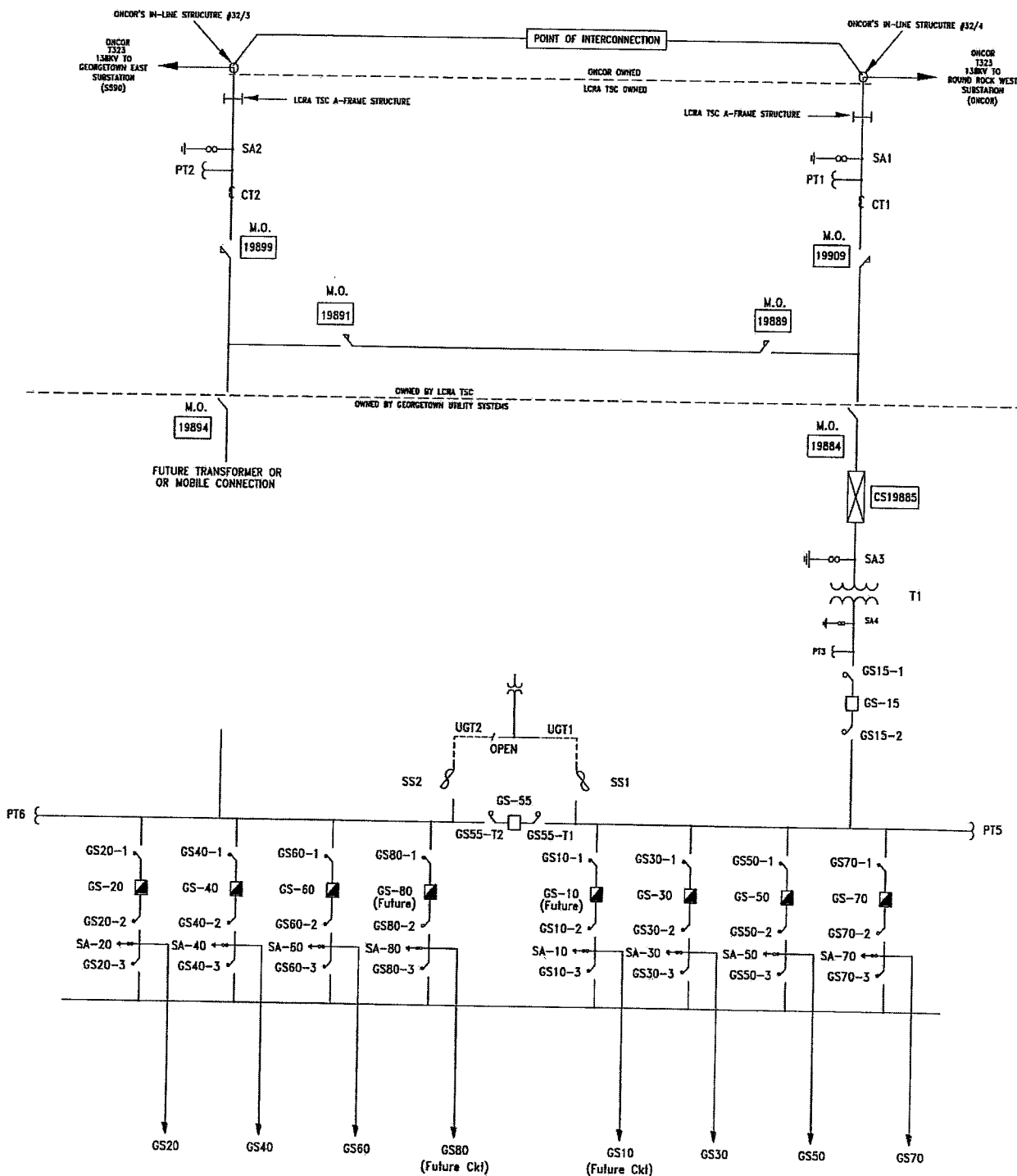
- Oncor will be responsible for the operation of the equipment it owns.
- LCRA TSC will be responsible for the operation of the equipment it owns, provided that the operation of LCRA TSC's sectionalizing switches #19889, #19891, #19899 and #19909 will be coordinated with Oncor's system operator. LCRA TSC's sectionalizing switches will be operated in the normally closed position. No change will be made in the normal operation of the Points of Interconnection without the mutual agreement of the Parties.

**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:**

- Oncor and LCRA TSC will each be responsible for all costs it incurs in connection with constructing, operating, and maintaining its facilities associated with the Points of Interconnection provided, however, that this Paragraph 12 is subject to any other provisions of this Agreement with respect to liability and indemnification and this Paragraph 12 shall not relieve either Party of its respective obligations under those provisions.
- LCRA TSC will monitor power and energy flows, device status, and bus voltage at Gerogetown South Substation associated with the Points of Interconnection. LCRA TSC will provide such data to ERCOT in accordance with ERCOT Requirements.
- Each Party will conduct its activities associated with the Points of Interconnection in accordance with applicable laws, regulations, tariffs, and all binding documents developed by the Electric Reliability Council of Texas and the North American Electric Reliability Corporation ("Binding Documents"). To the extent that any provision of the Agreement, including the provisions of this Facility Schedule, is in conflict with any mandatory provision of the Binding Documents, such mandatory provision will prevail. Notwithstanding any provision of the Agreement to the contrary, to the extent any provision of the Agreement is in conflict with a provision of this Facility Schedule, such provision of this Facility Schedule will prevail.

# GEORGETOWN SOUTH ONE-LINE DIAGRAM



GEORGETOWN SOUTH SUBSTATION