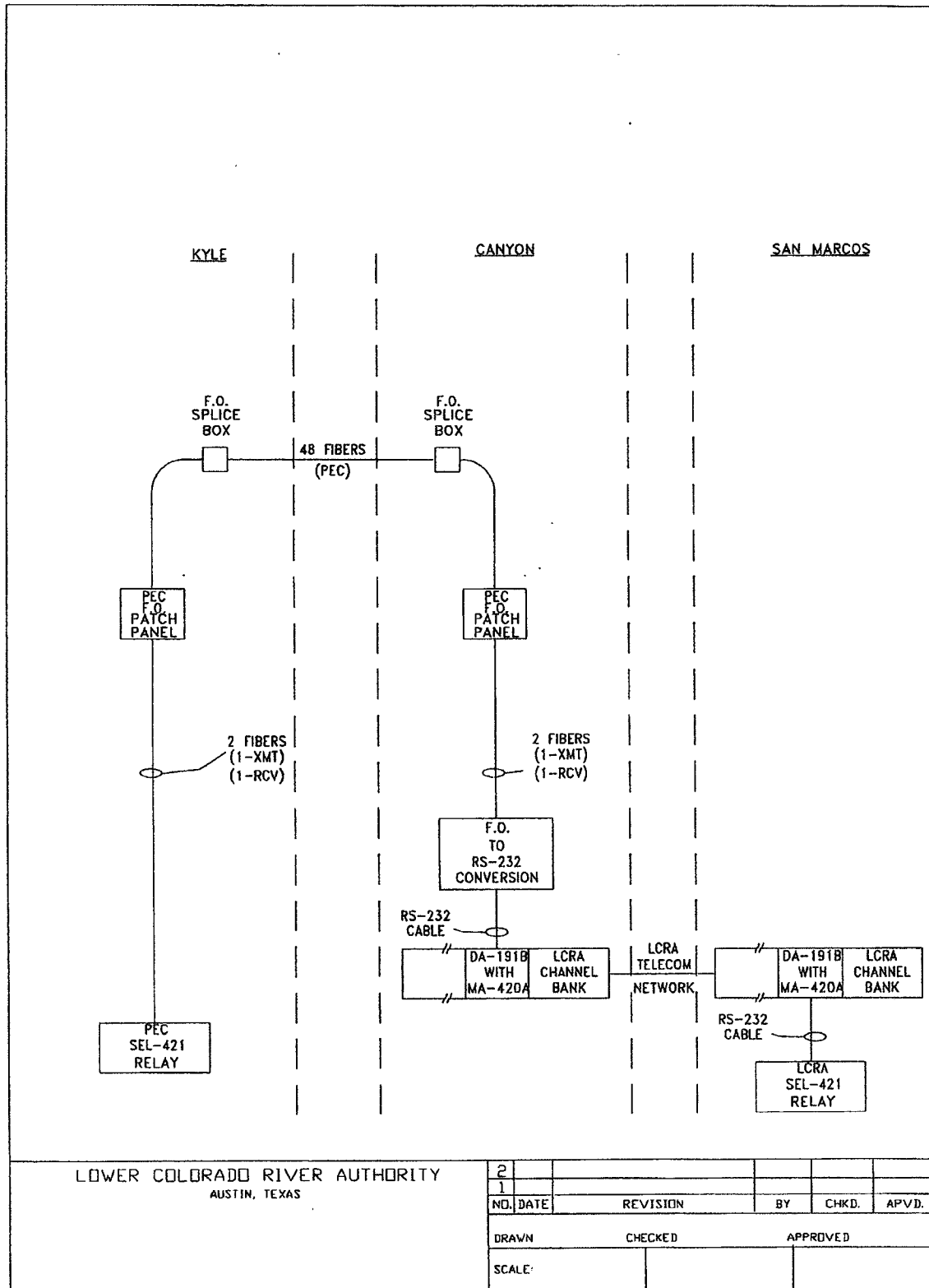
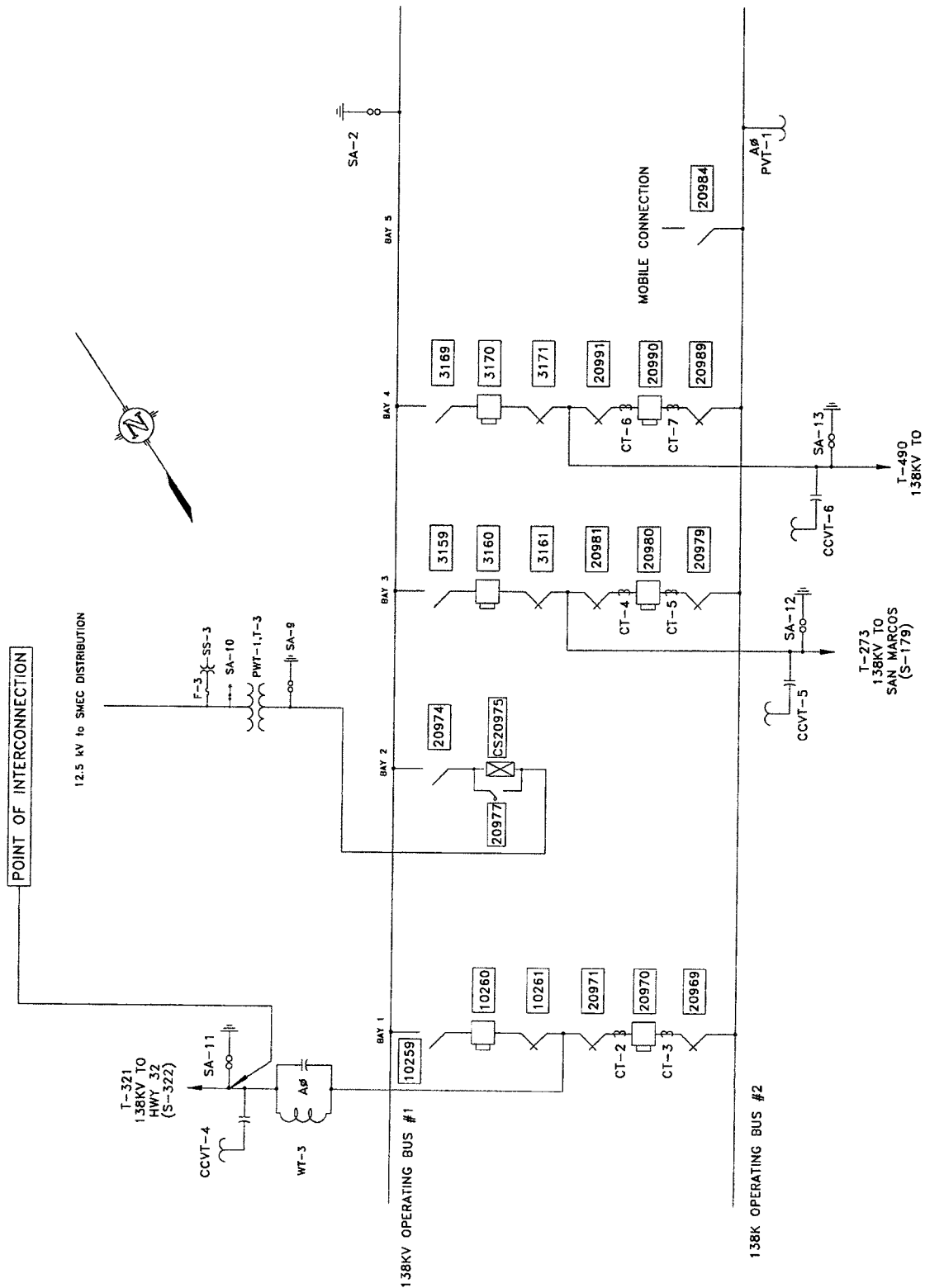




CANYON ONE-LINE DIAGRAM



CANYON SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING S229-E-0004.

FACILITY SCHEDULE NO. 11

1. **Name:** Copperas Cove Substation (PEC)
2. **Facility Location:** The Copperas Cove Substation is located at 2469 Big Divide Rd., Kempner, Lampasas County, Texas 76539.
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Copperas Cove Substation generally described as:
 - where the jumper from the 138 kV operating bus bolts to the 4 hole pad on switch 6634.
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 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:**

PEC owns:

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

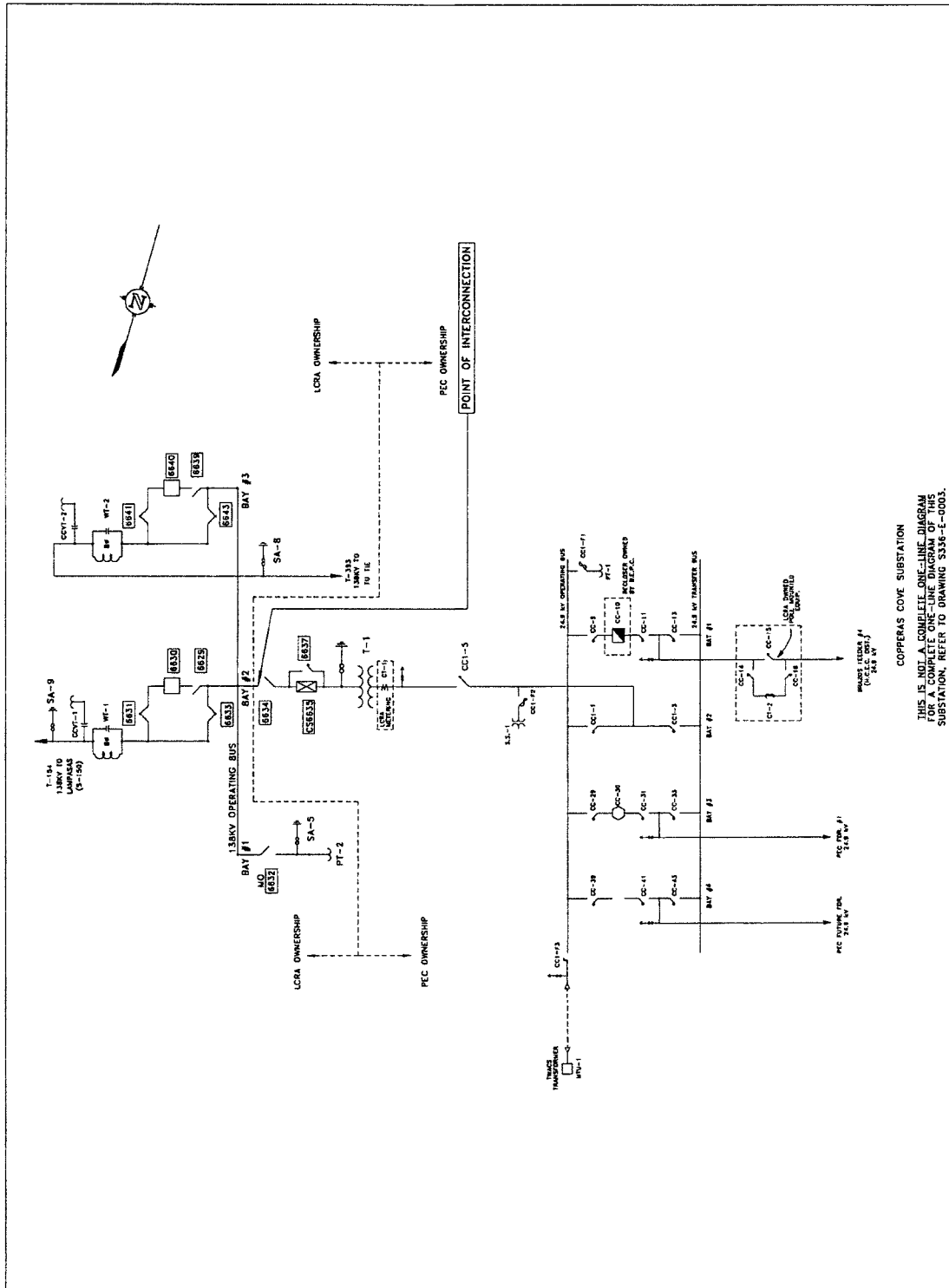
 - One (1) 138 kV circuit switcher CS-6635 with associated disconnect switch 6634 and bypass switch 6637
 - One (1) power transformer T-1 with associated surge arresters
 - One (1) 24.9 kV transformer bus disconnect switch CC1-5
 - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus and associated cabling
 - One (1) 24.9 kV bus potential transformer PT-1 with associated fused disconnect switch
 - One (1) distribution circuit breaker CC-30 including jumpers and protective relay packages
 - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit
 - Control house (24' X 24') and Battery
 - One (1) 24.9 kV station service SS-1 with fused disconnect switch

LCRA TSC owns:

- 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV operating bus including structures, insulators, foundations and jumpers
- Two (2) 138 kV circuit breakers 6630 and 6640 including foundation, jumpers and protective relay packages
- Six (6) 138 kV switches 6629, 6631, 6633, 6639, 6641 and 6643
- Three (3) 138 kV surge arresters SA-5, SA-8 and SA-9
- Two (2) 138 kV coupling capacitor voltage transformer CCVT-1 and CCVT-2
- Two (2) 138 kV wave traps and tuners WT-1 and WT-2
- One (1) 138 kV motor operated switch MO-6632
- One (1) 138 kV bus potential transformer PT-2
- One (1) 24.9 kV metering current transformer CT-2 (Brazos feeder)
- Three (3) 24.9 kV pole mounted low voltage switches CC-14, CC-15 and CC-16 (Brazos feeder)
- Battery 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

COPPERAS COVE ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 12

1. **Name:** E. Babe Smith Substation (PEC)
2. **Facility Location:** The E. Babe Smith Substation is located at 4734 S. US Hwy 281, Burnet, Burnet County, Texas 78611.
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the E. Babe Smith Substation generally described as:
 - where the jumper from the tubular bus, connecting switches 3776 and 3778, bolts to the terminal connector on the 138 kV bus.
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 in the 12.5 kV bus. 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:**

PEC owns:

The E. Babe Smith Substation including, but not limited to the following items:

 - One (1) 138 kV power fuse EB1-F3
 - One (1) power transformer T-1 with associated surge arresters
 - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All distribution circuit breakers including jumpers, protective relay packages and foundations
 - All distribution and total bays including box structure, foundations, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating bus and associated cabling
 - One (1) 12.5 kV bus potential transformer PT-1 with associated fused disconnect switch
 - Two (2) 12.5 kV current transformers CT-1 and CT-3
 - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit
 - Three (3) 12.5 kV single phase regulators REG-1 with associated disconnect and bypass switches
 - One (1) 12.5 kV station service SS-1 with fused disconnect switch
 - One (1) 29' x 10' metal roof

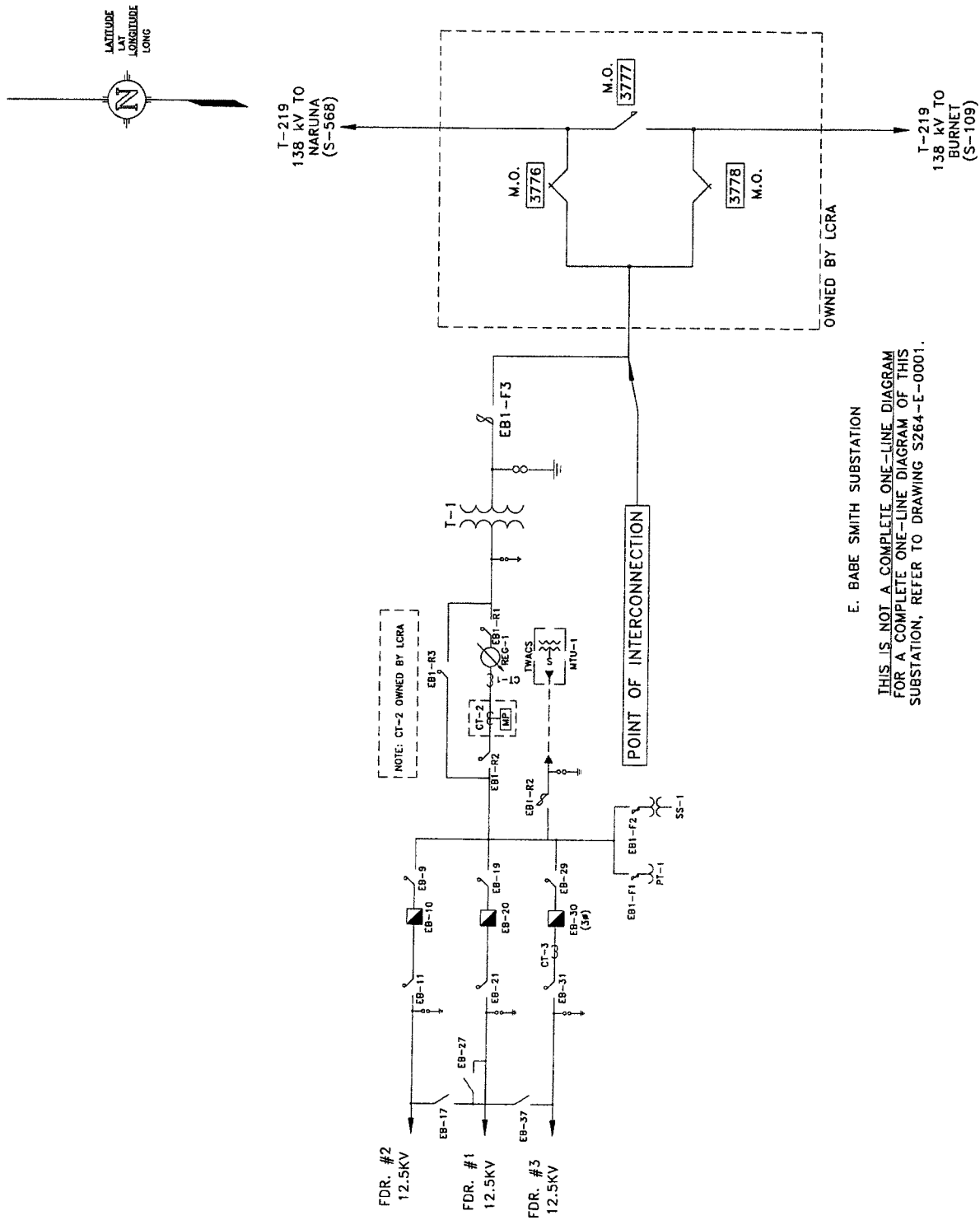
- Control House (8' X 12' metal) and Battery

LCRA TSC owns:

- Two (2) 138 kV dead-end A-frame structures, foundations, insulators and jumpers
- Three (3) 138 kV motor operated switches with interrupters MO-3776, MO-3777 and MO-3778
- One (1) 12.5 kV metering current transformer CT-2
- Battery house (12' X 21') and battery bank
- One (1) 8' x 12' metal buildings

- 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

E. BABE SMITH ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 13

1. **Name:** Escarpment Substation (LCRA)
2. **Facility Location:** The Escarpment Substation is located at 5900 SH 45, Austin, Travis County, Texas 78739.
3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Escarpment Substation generally described as:
 - where the jumper from the 138 kV bus terminal connector bolts to the 4 hole pad on switch 19634.
 - where the jumper from the 138 kV bus terminal connector bolts to the 4 hole pad on switch 19644.
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 24.9 kV. The metering current transformers are located inside T-1 and T-2. The bus potential transformers are located on both 24.9 kV operating buses.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

PEC owns:

 - Two (2) 138 kV circuit switchers CS-19635 and CS-19645 with associated bypass switches 19637, 19647 and disconnect switches 19634, 19644
 - Two (2) power transformers T-1 and T-2 with associated surge arresters
 - Two (2) 24.9 kV metering current transformers CT-1 and CT-2 (internal to T-1 and T-2)
 - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All distribution and total circuit breakers including jumpers, protective relay packages and foundations
 - All distribution, bus tie and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus and associated cabling
 - Two (2) 24.9 kV bus potential transformers PT-1 and PT-2 with associated fused disconnect switches
 - Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units

Two (2) 24.9 kV station service SS-1 and SS-2 with associated fused disconnect switches

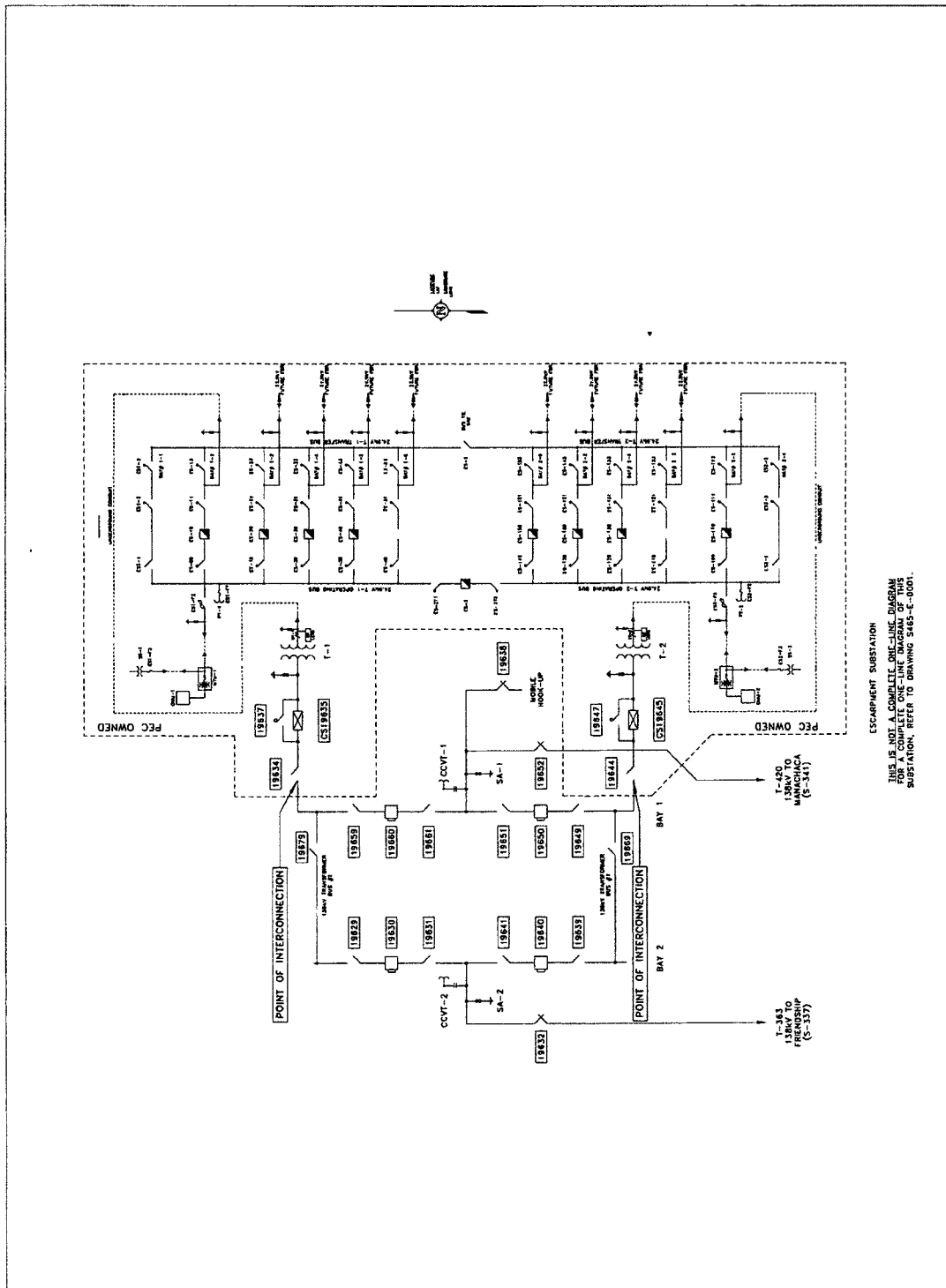
LCRA TSC owns:

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

- 138 kV dead-end structures, foundations, insulators and jumpers
- Four (4) 138 kV circuit breakers 19630, 19640, 19650 and 19660 including foundation, jumpers and protective relay packages
- Thirteen (13) 138 kV switches 19629, 19631, 19632, 19638, 19639, 19641, 19649, 19651, 19652, 19659, 19661, 19669 and 19679
- 138 kV ring bus including structures, insulators, foundations and jumpers
- 138 kV transformer bus #1 and #2 bus including structures, insulators, foundations and jumpers
- Two (2) 138 kV coupling capacitor voltage transformer CCVT-1 and CCVT-2
- Two (2) 138 kV surge arresters SA-1 and SA-2
- Control house (24' X 51') and battery

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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

ESCARPMENT ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 14

1. **Name:** Fairland Substation (PEC)
2. **Facility Location:** The Fairland Substation is located at 8531 S. US Hwy 281, Marble Falls, Burnet County, Texas 78654.
3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Fairland Substation generally described as:
 - where the jumper from the 138 kV bus terminal connector bolts to the 4 hole pad on switch 10374.
 - where the jumper from the 138 kV bus terminal connector bolts to the 4 hole pad on switch 10384.
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 for transformer T-1 is located on the distribution box structure. The metering current transformer for T-2 is located inside T-2. The bus potential transformers are located on both 12.5 kV operating buses.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

PEC owns:

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

 - Two (2) 138 kV circuit switchers CS-10375 and CS-10385 with associated disconnect switches 10374, 10384 and bypass switches 10377, 10387
 - Two (2) power transformer T-1 and T-2 with associated surge arresters
 - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All underground distribution circuits including insulators, conductors, jumpers and hardware
 - All distribution circuit breakers including jumpers, protective relay packages and foundations
 - All distribution and total bays including box structure, A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer buses and associated cabling
 - Two (2) 12.5 kV bus potential transformers PT-1 and PT-3 with associated fused disconnect switches

- One (1) metering current transformer CT-2 (internal to T-2)
- Control house (25' 7" X 25' 7") and battery
- Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units
- Two (2) 12.5 kV station service SS-1 and SS-2 with associated fused disconnect switches

LCRA TSC owns:

- 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV operating bus including structures, insulators, foundations and jumpers
- Two (2) 138 kV circuit breakers 10370 and 10380 including foundation, jumpers and protective relay packages
- Seven (7) 138 kV switches 10369, 10371, 10373, 10376, 10379, 10381 and 10383
- One (1) 138 kV motor operated switch 10378
- One (1) 12.5 kV metering current transformer CT-1 with associated disconnect and bypass switches FL-49, FL-51 and FL-53
- Three (3) 138 kV surge arresters SA-6, SA-8 and SA-9
- One (1) 138 kV wave trap and tuner WT-1
- One (1) 138 kV bus potential transformer PT-2
- One (1) 138 kV coupling capacitor voltage transformer CCVT-1
- Control house

- 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

[illegible]

FACILITY SCHEDULE NO. 15

1. **Name:** Fair Oaks Substation (PEC)
2. **Facility Location:** The Fair Oaks Substation is located at 245 FM 3351 South, Fair Oaks Ranch, Kendall County, Texas 78006.
3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Fair Oaks Substation generally described as:
 - where the 138 kV bus expansion connector bolts to the 4 hole pad on switch 9334.
 - where the 138 kV bus expansion connector bolts to the 4 hole pad on switch 17762.
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 24.9 kV. The metering current transformers are inside transformers T-1 and T-2. 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:**

PEC owns:

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

 - Two (2) 138 kV circuit switchers CS-9335 and CS-17765 with associated disconnect switches 9334 and 17762 and bypass switches 9337 and 17767
 - Two (1) power transformers T-1 and T-2 with associated surge arresters
 - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All distribution, total and operating bus tie circuit breakers including jumpers, protective relay packages and foundations
 - All distribution, total and bus tie bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer buses and associated cabling
 - Two (2) 24.9 kV potential transformers PT-1 and PT -2 with associated fused switches
 - Two (2) metering current transformers CT-1 and CT-2 (internal to T-1 and T-2)
 - Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units
 - Two (2) 24.9 kV station service SS-1 and SS-2 with associated fused disconnect

switches

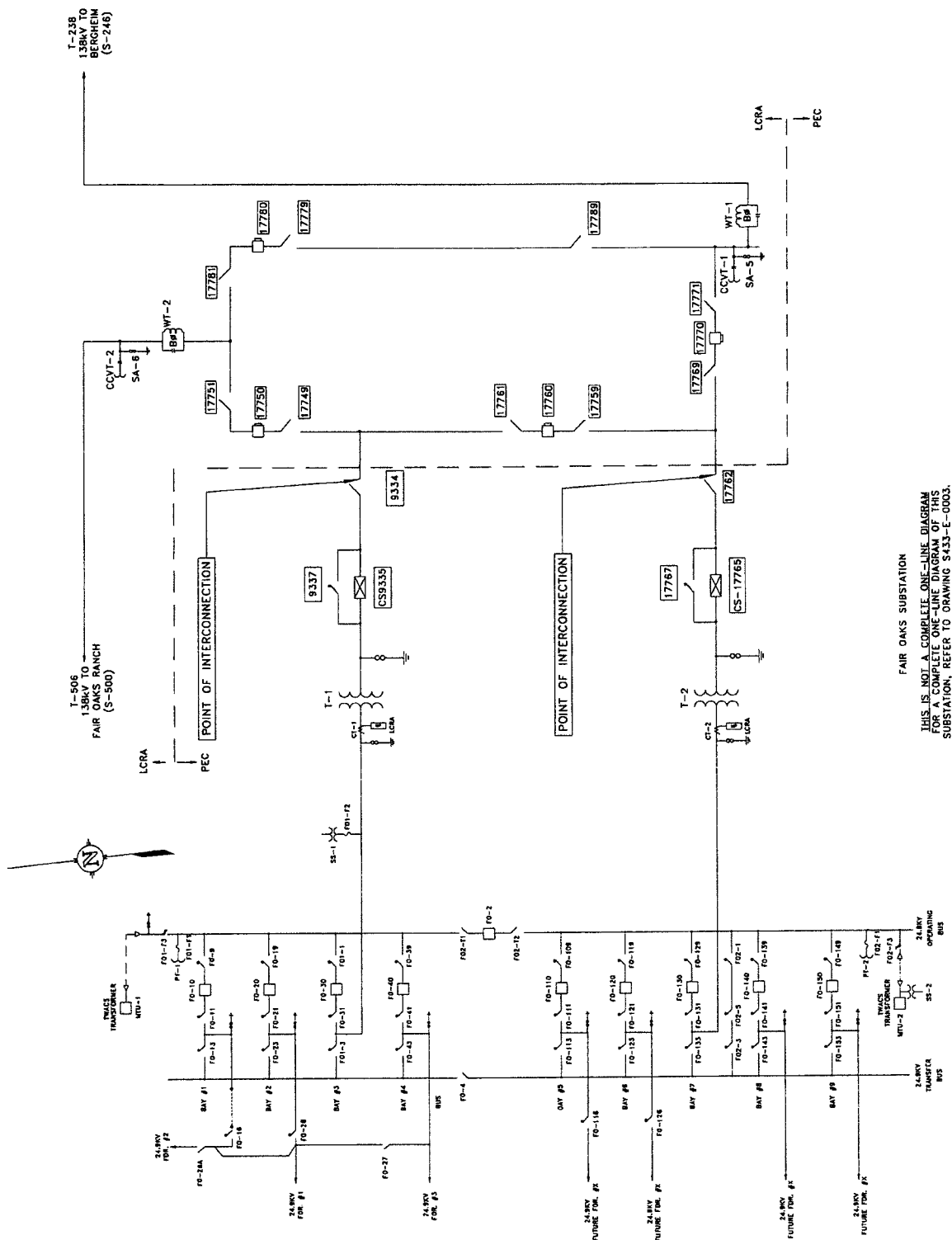
- Control house (30' X 30') and battery

LCRA TSC owns:

- 138 kV ring bus including structures, insulators, foundations and jumpers
- 138 kV dead-end structures, foundations, insulators and jumpers
- Four (4) 138 kV circuit breakers 17750, 17760, 17770 and 17780 including foundation, jumpers and protective relay packages
- Nine (9) 138 kV switches 17749, 17751, 17759, 17761, 17769, 17771, 17779, 17781 and 17789
- Two (2) 138 kV coupling capacitor voltage transformer CCVT-1 and CCVT-2
- Two (2) 138 kV wave traps and tuners WT-1 and WT-2
- Two (2) 138 kV surge arresters SA-5 and SA-6
- Control house (24' X 33') and battery

- 10. Operational Responsibilities of Each Party:** Each Party is responsible for the operation on 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

FAIR OAKS ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 16

1. **Name:** Friendship Substation (PEC)
2. **Facility Location:** The Friendship Substation is located at 14100 FM 1826, Austin, Hays County, Texas 78737.
3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Friendship Substation generally described as:
 - where the 138 kV operating bus expansion connector bolts to the 4 hole pad on switch 6429.
 - where the 138 kV transfer bus terminal connector bolts to the 4 hole pad on switch 6433
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 24.9 kV. The metering current transformers are inside T-2 and FS-50. The bus potential transformers are located on both 24.9 kV operating buses.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

PEC owns:

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

 - 138 kV dead-end structures, foundations, insulators and jumpers (except for one A-frame, truss and foundation in bay #3)
 - 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
 - Seven (7) 138 kV switches 6409, 6411, 6413, 6419, 6421, 6423 and 6434 including switch stands, foundations and jumpers.
 - Two (2) 138 kV circuit breakers 6410 and 6420 including foundation, jumpers and protective relay packages
 - One (1) 138 kV surge arrester
 - One (1) 138 kV bus potential transformer PT-1
 - Two (2) 138 kV coupling capacitors CC-1 and CC-2
 - Two (2) 138 kV wave traps and tuners WT-1/LT-1 and WT-2/LT-2
 - Three (3) 138 kV circuit switchers CS-6405, CS-6415, CS-6425 with associated disconnect switches 6404, 6414, 6424 and bypass switches 6407, 6427
 - Two (2) power transformers T-1 and T-2 with associated surge arresters

- One (1) 15 kV single phase current transformer CT-4
- One (1) 69 kV capacitor bank potential transformer PT-3
- All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
- All distribution and total 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 and associated cabling
- Two (2) metering current transformers CT-1 and CT-2 (inside FS-50 and T-2)
- One (1) 138 kV capacitor bank CAP-1 including support structure and foundation
- One (1) 138 kV current transformer CT-3
- Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units
- Control house and battery
- Two (2) 24.9 kV station service SS-1 and SS-2 with associated fused disconnect switches
- Two (2) 24.9 kV bus potential transformers PT-2 and PT-4 with associated fused disconnect switches

LCRA TSC owns:

- 138 kV A-frame dead-end structure (1) A-frame and truss in bay #3, foundation, insulators and jumpers
- One (1) 138 kV circuit breaker 6430 including foundation, jumpers and protective relay package
- Three (3) 138 kV switches 6429, 6431 and 6433 including switch stands, foundations and jumpers
- One (1) 138 kV surge arrester SA-8

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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

The diagram illustrates the power distribution system for the 'MIR' space station. It features a main 24.5 kV bus at the top left, which feeds into a series of 24.5 kV operating buses. These buses are connected to various components including:

- Transformers:** T-345 (24.5/115 kV), T-346 (24.5/115 kV), T-347 (24.5/115 kV), T-348 (24.5/115 kV), T-349 (24.5/115 kV), T-350 (24.5/115 kV), T-351 (24.5/115 kV), T-352 (24.5/115 kV), T-353 (24.5/115 kV), T-354 (24.5/115 kV), T-355 (24.5/115 kV), T-356 (24.5/115 kV), T-357 (24.5/115 kV), T-358 (24.5/115 kV), T-359 (24.5/115 kV), T-360 (24.5/115 kV), T-361 (24.5/115 kV), T-362 (24.5/115 kV), T-363 (24.5/115 kV), T-364 (24.5/115 kV), T-365 (24.5/115 kV), T-366 (24.5/115 kV), T-367 (24.5/115 kV), T-368 (24.5/115 kV), T-369 (24.5/115 kV), T-370 (24.5/115 kV), T-371 (24.5/115 kV), T-372 (24.5/115 kV), T-373 (24.5/115 kV), T-374 (24.5/115 kV), T-375 (24.5/115 kV), T-376 (24.5/115 kV), T-377 (24.5/115 kV), T-378 (24.5/115 kV), T-379 (24.5/115 kV), T-380 (24.5/115 kV), T-381 (24.5/115 kV), T-382 (24.5/115 kV), T-383 (24.5/115 kV), T-384 (24.5/115 kV), T-385 (24.5/115 kV), T-386 (24.5/115 kV), T-387 (24.5/115 kV), T-388 (24.5/115 kV), T-389 (24.5/115 kV), T-390 (24.5/115 kV), T-391 (24.5/115 kV), T-392 (24.5/115 kV), T-393 (24.5/115 kV), T-394 (24.5/115 kV), T-395 (24.5/115 kV), T-396 (24.5/115 kV), T-397 (24.5/115 kV), T-398 (24.5/115 kV), T-399 (24.5/115 kV), T-400 (24.5/115 kV).
- Switches:** PS-1, PS-2, PS-3, PS-4, PS-5, PS-6, PS-7, PS-8, PS-9, PS-10, PS-11, PS-12, PS-13, PS-14, PS-15, PS-16, PS-17, PS-18, PS-19, PS-20, PS-21, PS-22, PS-23, PS-24, PS-25, PS-26, PS-27, PS-28, PS-29, PS-30, PS-31, PS-32, PS-33, PS-34, PS-35, PS-36, PS-37, PS-38, PS-39, PS-40, PS-41, PS-42, PS-43, PS-44, PS-45, PS-46, PS-47, PS-48, PS-49, PS-50, PS-51, PS-52, PS-53, PS-54, PS-55, PS-56, PS-57, PS-58, PS-59, PS-60, PS-61, PS-62, PS-63, PS-64, PS-65, PS-66, PS-67, PS-68, PS-69, PS-70, PS-71, PS-72, PS-73, PS-74, PS-75, PS-76, PS-77, PS-78, PS-79, PS-80, PS-81, PS-82, PS-83, PS-84, PS-85, PS-86, PS-87, PS-88, PS-89, PS-90, PS-91, PS-92, PS-93, PS-94, PS-95, PS-96, PS-97, PS-98, PS-99, PS-100.
- Interconnection Points:** POINT OF INTERCONNECTION, TO RCS MOBILE SWITCH.
- Equipment:** T-345, T-346, T-347, T-348, T-349, T-350, T-351, T-352, T-353, T-354, T-355, T-356, T-357, T-358, T-359, T-360, T-361, T-362, T-363, T-364, T-365, T-366, T-367, T-368, T-369, T-370, T-371, T-372, T-373, T-374, T-375, T-376, T-377, T-378, T-379, T-380, T-381, T-382, T-383, T-384, T-385, T-386, T-387, T-388, T-389, T-390, T-391, T-392, T-393, T-394, T-395, T-396, T-397, T-398, T-399, T-400.

The diagram also shows the connection to the 'MIR' space station, which is represented by a large rectangle at the bottom right. The connection is made through a series of switches and interconnection points. The diagram is labeled with various codes and numbers, including 'PS-1' through 'PS-100' and 'T-345' through 'T-400'.

FACILITY SCHEDULE NO. 17

1. **Name:** Gabriel Substation (LCRA)
2. **Facility Location:** The Gabriel Substation is located at 200 County Road 151, Georgetown, Williamson County, Texas 78626.
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Gabriel Substation generally described as:
 - where the 138 kV conductor from bay 7 terminates at the dead end insulator on PEC's a-frame above switch 5411.
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 24.9 kV. The metering current transformer is in the total bay for T-4. 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:**

PEC owns:

 - One (1) 138 kV dead-end structure, foundations, insulators and jumpers
 - 138 kV operating bus #2 including structures, insulators, foundations and jumpers
 - One (1) 138 kV circuit switcher CS-5435 with bypass switch 5436
 - One (1) 138 kV switch 5411
 - One (1) power transformer T-4 with associated surge arresters
 - All T-4 distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All T-4 distribution circuit breakers including jumpers, protective relay packages and foundations
 - All T-4 distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus and associated cabling
 - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit
 - Control house (24' x 24') and battery
 - One (1) 24.9 kV station service SS-1 with associated fused disconnect switch
 - One (1) 24.9 kV bus potential transformer PT-1 with associated fused disconnect switch

- One (1) 24.9 kV bus transformer disconnect switch GB4-5 with vacuum interrupters

LCRA TSC owns:

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

- 138 kV operating bus #1 and transfer bus #1 including structures, insulators, foundations and jumpers
- Three (3) 138 kV switches 5419, 5421 and 5423
- One (1) 138 kV bus potential transformer PT-1
- One (1) 138 kV surge arrester SA-8
- One (1) 24.9 kV metering current transformer CT-1
- Control house (30' x 45') and battery bank
- Underfrequency relay panel

- 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

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THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING S238-E-0002.

NOTE: CT-1 OWNED BY
LCS.

FACILITY SCHEDULE NO. 18

1. **Name:** Glasscock Substation (LCRA)
2. **Facility Location:** The Glasscock Substation is located at 3540 State Hwy 195, Georgetown, Williamson County, Texas 78628.
3. **Points of Interconnection:** There are nine (9) Points of Interconnection in the Glasscock Substation generally described as:
 - where the incoming distribution line connects to the tubular bus between switches GL-11 and GL-13 at breaker GL-10.
 - where the jumper from breaker GL-10, passing through CT-1, connects to the 4 hole pad on switch GL-9.
 - where the jumper from breaker GL-10 connects to the 4 hole pad on switch GL-11.
 - where the incoming distribution line connects to the tubular bus between switches GL-21 and GL-23 at breaker GL-20.
 - where the jumper from breaker GL-20, passing through CT-2, connects to the 4 hole pad on switch GL-19.
 - where the jumper from breaker GL-20 connects to the 4 hole pad on switch GL-21.
 - where the incoming distribution line connects to the tubular bus between switches GL-41 and GL-43 at breaker GL-40.
 - where the jumper from breaker GL-40, passing through CT-3, connects to the 4 hole pad on switch GL-39.
 - where the jumper from breaker GL-40 connects to the 4 hole pad on switch GL-41.
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 transformer is inside transformer PWT-1, 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:**
PEC owns:
 - Three (3) distribution circuit breakers GL-10, GL-20, GL-40 including jumpers and protective relay packages

- Four (4) distribution circuit breaker foundations in bays 1, 2, 4 and 5
- One (1) modulation transformer MTU-1 with associated surge arresters, fused disconnect switch and OMU unit

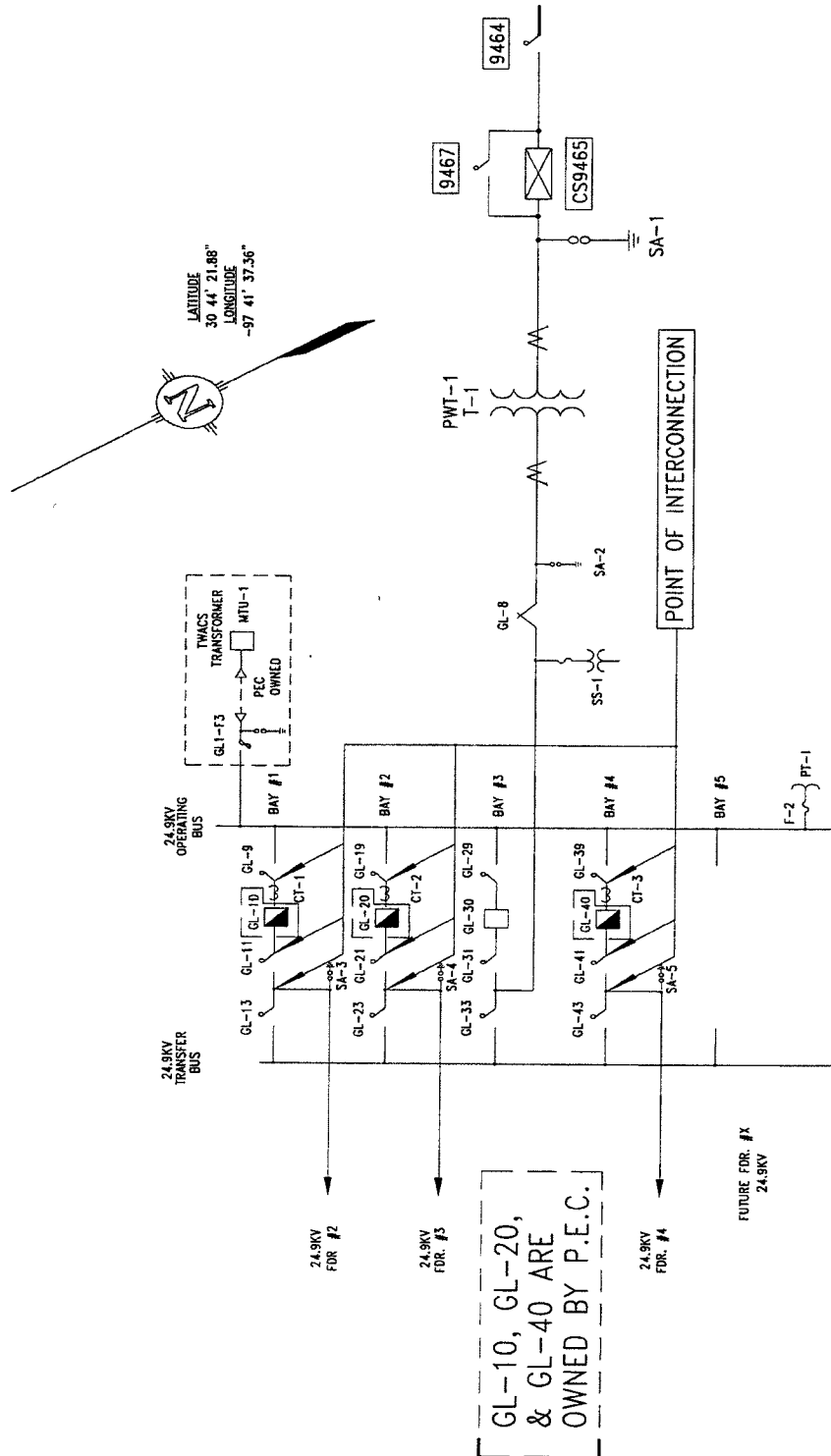
LCRA TSC owns:

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

- One (1) 138 kV circuit switcher CS-9465 with associated disconnect switch 9464 and bypass switch 9467
- One (1) power transformer PWT-1, T-1 with associated surge arresters
- All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 24.9 kV operating and transfer bus, current transformers and associated cabling
- One (1) PWT-1, T-1 24.9 kV transformer bus disconnect switch GL-8
- One (1) total circuit breaker GL-30 with jumpers, protective relaying and foundation
- Control house and battery bank
- One (1) 24.9 kV station service SS-1 with associated fused disconnect switch
- One (1) 24.9 kV bus potential transformer PT-1 with associated fused disconnect switch

- 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

GLASSCOCK ONE-LINE DIAGRAM



GLASSCOCK SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING S426-E-0003.

FACILITY SCHEDULE NO. 19

1. **Name:** Goforth Substation (PEC)
2. **Facility Location:** The Goforth Substation is located at 106 Bunton Land, Kyle, Hays County, Texas 78640.
3. **Points of Interconnection:** There are Two (2) Points of Interconnection in the Goforth Substation generally described as:
 - where the 138 kV bus expansion connector bolts to the 4 hole pad on switch 5604.
 - where the 138 kV bus terminal connector bolts to the 4 hole pad on switch 12524.
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 24.9 kV. The metering current transformers are inside transformers T-1 and T-2. The bus potential transformers are located on 24.9 kV operating bus (T-1) and 24.9 kV operating bus (T-2).
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

PEC owns:

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

 - Two (2) 138 kV circuit switchers CS-5605 and CS-12525 with associated disconnect switches 5604, 12524 and bypass switches 5607, 12527
 - One (1) 138 kV switch 12556
 - Two (2) power transformers T-1 and T-2 with associated surge arresters
 - Two (2) metering current transformers CT-1 and CT-2 (internal to T-1 and T-2)
 - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All distribution, bus tie and total 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 (T-1 and T-2) and associated cabling
 - One (1) 24.9 kV T-1 bus disconnect switch GF1-5
 - Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units
 - Two (2) 24.9 kV station service SS-1 and SS-2 with associated disconnect switches

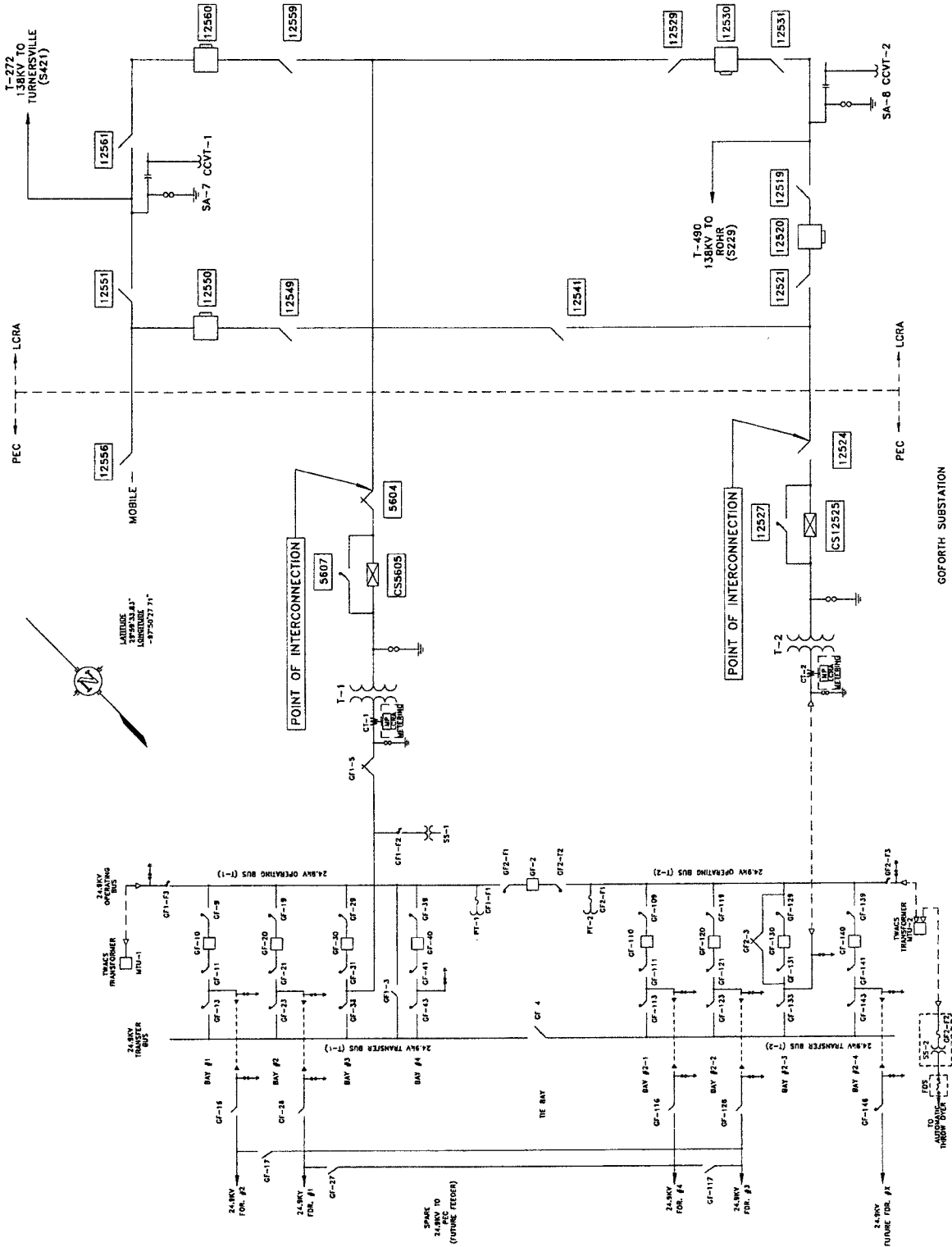
- Two (2) 24.9 kV bus potential transformers PT-1 and PT-2 with associated disconnect switches
- Control house (24' X 24') and battery

LCRA TSC owns:

- 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV ring bus including structures, insulators, foundations and jumpers
- Four (4) 138 kV circuit breakers 12520, 12530, 12550 and 12560 including foundation, jumpers and protective relay packages
- Nine (9) 138 kV switches 12519, 12521, 12529, 12531, 12541, 12549, 12551, 12559 and 12561
- Two (2) 138 kV coupling capacitor voltage transformers CCVT-1 and CCVT-2
- Two (2) 138 kV surge arresters SA-7 and SA-8
- Control house (24' X 33') and battery
- Underfrequency relay panel

- 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

GOFORTH ONE-LINE DIAGRAM



FACILITY SCHEDULE NO. 20

1. **Name:** Granite Mountain Substation (PEC)
2. **Facility Location:** The Granite Mountain Substation is located at 2601 W. FM 1431, Marble Falls, Burnet County, Texas 78654.
3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Granite Mountain Substation generally described as:
 - where the incoming LCRA TSC 138 kV transmission line from Marble Falls terminates at the dead end structure in the substation.
 - where the incoming LCRA TSC 138 kV transmission line from Ferguson terminates at the dead end structure in the substation.
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 transformers are inside transformers T-1 and T-2. The bus potential transformers are located on the 12.5 kV T-1 operating bus and 12.5 kV T-2 operating bus.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

PEC owns:

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

 - Line protection equipment for the LCRA TSC owned Granite Mountain to Marble Falls transmission line
 - Line protection equipment for the LCRA TSC owned Granite Mountain to Ferguson transmission line
 - 138 kV dead-end structures, foundations, insulators and jumpers
 - 138 kV operating bus including structures, insulators, foundations and jumpers
 - Two (2) 138kV circuit breakers 9200 and 9210 including foundation, jumpers and protective relay packages
 - Eight (8) 138 kV switches 9201, 9203, 9199, 9211, 9213, 9209, 8576, 9198
 - One (1) 138 kV bus potential transformer PT-3 with associated surge arrester
 - Two (2) 138 kV wave traps WT-1 and WT-2
 - Two (2) 138 kV line tuners LT-1 and LT-2
 - Two (2) 138 kV coupling capacitors CC-1 and CC-2
 - Two (2) 138 kV circuit switchers CS-8615 and CS-8575 with associated disconnect switches 8614 and 8574 and bypass switches 8617 and 8577

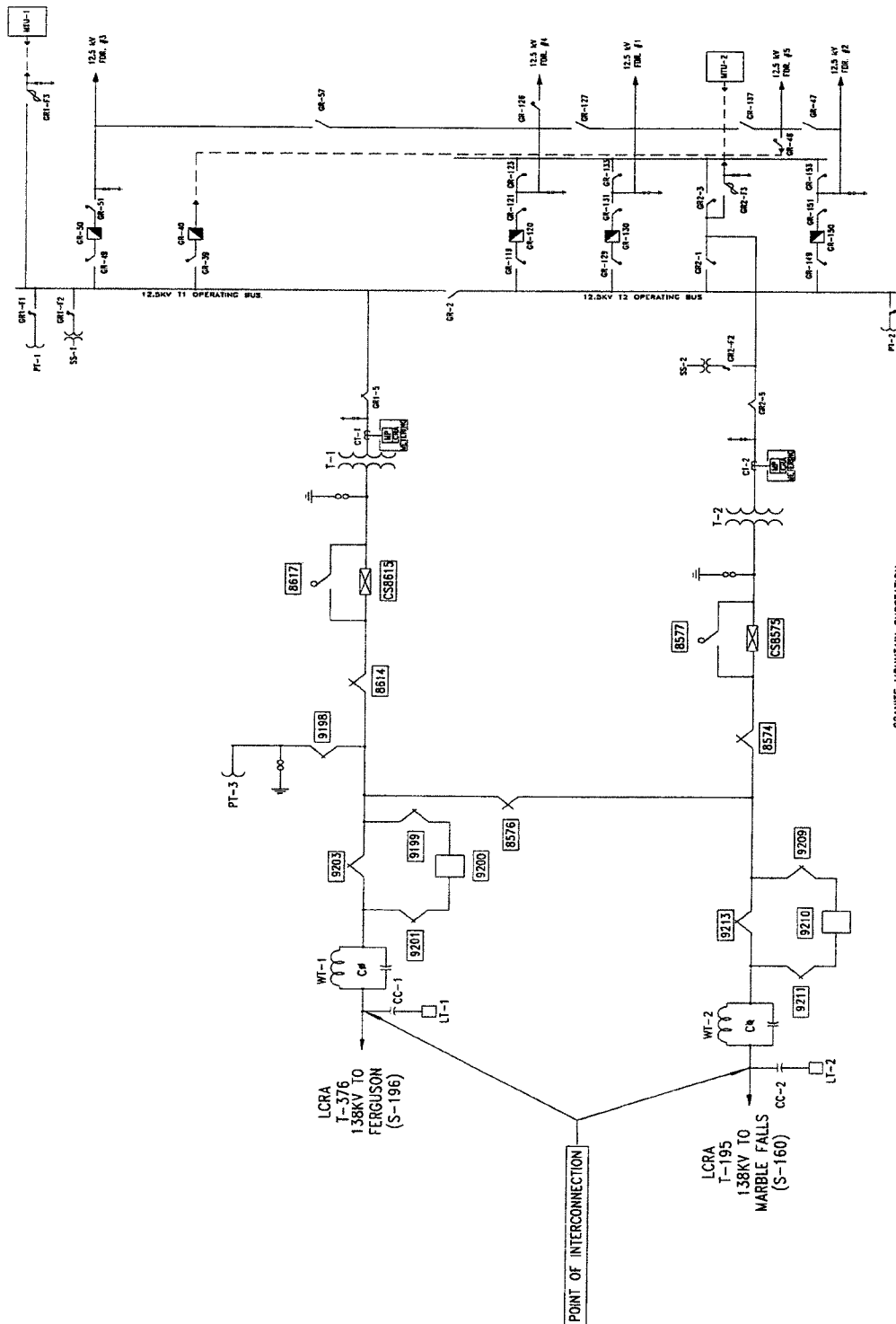
- Two (2) power transformers T-1 and T-2 with associated surge arresters
- Two (2) metering current transformers CT-1 and CT-2 (internal to T-1 and T-2)
- All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
- All distribution circuit 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 and associated cabling
- Two (2) 12.5 kV bus disconnect switches GR1-5 and GR2-5
- Two (2) 12.5 kV bus potential transformers PT-1 and PT-2 with associated fused disconnect switches
- Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switched and OMU units
- Control house and battery
- Two (2) 12.5 kV station service SS-1 and SS-2 with associated fused disconnect switches

LCRA TSC owns:

- The following transmission lines comprised of conductors, insulators, and connecting hardware:
 - o Granite Mountain to Marble Falls 138 kV transmission line
 - o Granite Mountain to Ferguson 138 kV transmission line

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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

GRANITE MOUNTAIN ONE-LINE DIAGRAM



GRANITE MOUNTAIN SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING S321-E-0002.

FACILITY SCHEDULE NO. 21

1. **Name:** Graphite Mine Substation (PEC)
2. **Facility Location:** The Graphite Mine Substation is located at 350 CR 113 (Graphite Mine Rd.), Burnet, Burnet County, Texas 78611.
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Graphite Mine Substation generally described as:
 - where the jumper from the 138 kV wire bus, running between switches 3716 and 3718, connects to switch 3744.
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 in the total bay. The bus potential transformer is located on the T-1, 12.5 kV transformer bus.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

PEC owns:

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

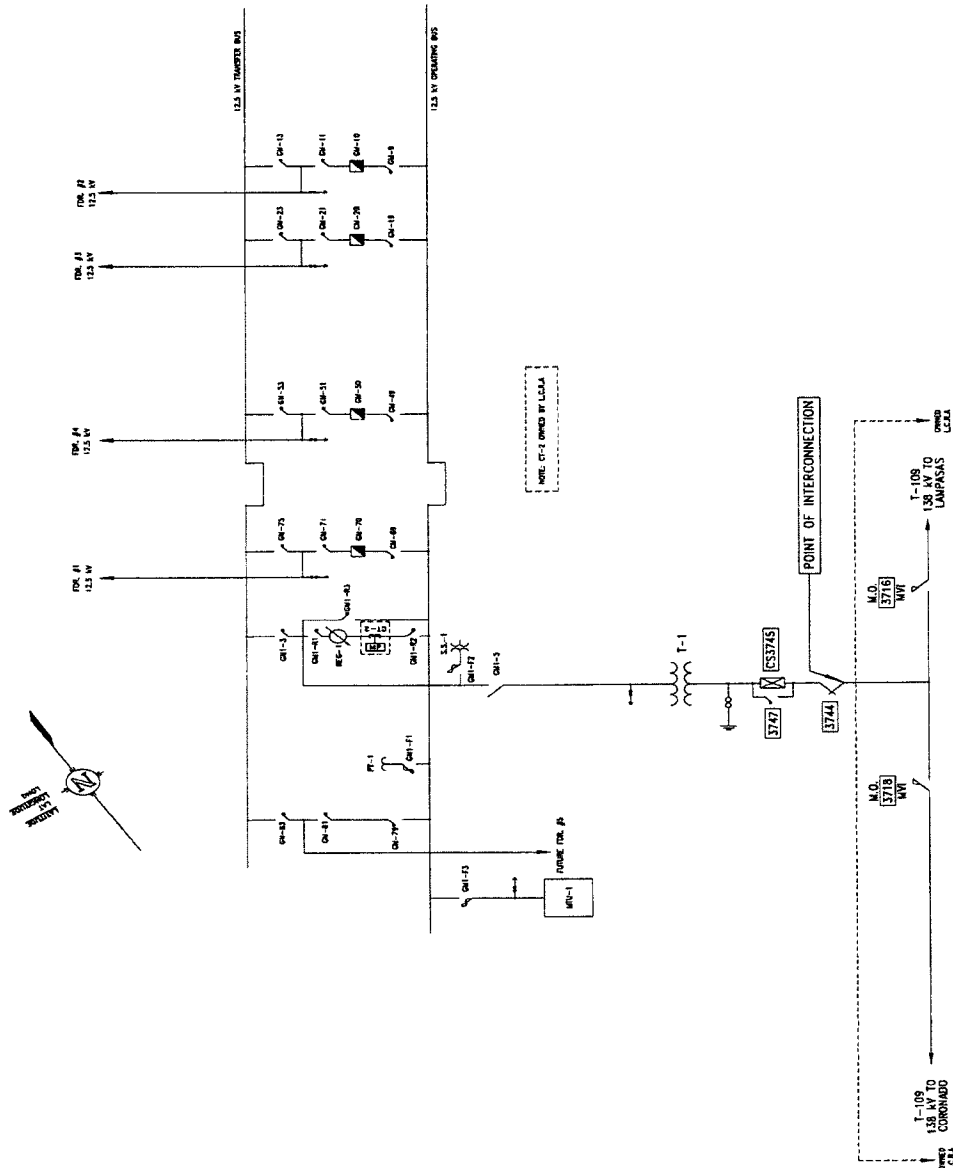
 - One (1) 138 kV circuit switcher CS-3745 with associated disconnect switch 3744 and bypass switch 3747
 - One (1) power transformer T-1 with associated surge arresters
 - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All distribution circuit breakers including jumpers, protective relay packages and foundations
 - All distribution and total bays including A-frame, foundations, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating bus and associated cabling
 - One (1) 12.5 kV bus potential transformer PT-1 with associated fused disconnect switch
 - Three (3) 12.5 kV single phase regulators REG-1 with associated disconnect and bypass switches
 - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect and OMU unit
 - One (1) 12.5 kV station service SS-1 with associated fused disconnect switch
 - Control house and battery

LCRA TSC owns:

- Two (2) 138 kV dead-end A-frame structures, foundations, insulators and jumpers
- 138 kV operating bus including conductor, insulators
- Two (2) 138 kV motor operated switches with interrupters MO-3716 and MO-3718
- One (1) metering current transformer CT-2
- Underfrequency relay panel

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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

GRAPHITE MINE ONE-LINE DIAGRAM



GRAPHITE MINE SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING 5208-E-0001.

FACILITY SCHEDULE NO. 22

1. **Name:** Horseshoe Bay Substation (PEC)
2. **Facility Location:** The Horseshoe Bay Substation is located at 9760 W. FM 2147, Cottonwood Shores, Llano County, Texas 78654.
3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Horseshoe Bay Substation generally described as:
 - where the 138 kV bus expansion connector bolts to the 4 hole pad on switch 12854.
 - where the 138 kV bus expansion connector bolts to the 4 hole pad on switch 12858.
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 transformers are inside total breaker HS-50 for T-1 and inside T-2. 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:**
PEC owns:
 - The Horseshoe Bay Substation including, but not limited to, the following items:
 - Two (2) 138 kV circuit switchers CS-12845 and CS-12855 with associated disconnect switches 12854, 12858 and bypass switches 12847, 12857
 - Two (2) power transformers T-1 and T-2 with associated surge arresters
 - Two (2) metering current transformers CT-1 and CT-2 (internal to HS-50 and T-2)
 - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All distribution, bus tie and total 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 transformers and associated cabling
 - Two (2) 12.5 kV bus potential transformers PT-1 and PT-2 with associated fused disconnect switches
 - Two (2) modulation transformers MTU-1 and MTU-2 with associated surge

- arresters, fused disconnect switches and OMU units
- Control house (24' X 24') and battery
- Two (2) 12.5 kV station service SS-1 and SS-2 with associated fused disconnect switches

LCRA TSC owns:

- 138 kV dead-end structures, foundations, insulators and jumpers
- 138 kV operating bus including structures, insulators, foundations and jumpers
- Two (2) 138 kV circuit breakers 12840 and 12850 including foundation, jumpers and protective relay packages
- Six (6) 138 kV switches 12839, 12841, 12843, 12849, 12851 and 12853
- Two (2) 138 kV coupling capacitor voltage transformers CCVT-1 and CCVT-2
- Two (2) 138 kV surge arresters SA-3 and SA-4
- Control house (27' X 21') and battery
- Underfrequency relay panel

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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

HORSESHOE BAY SUBSTATION

FACILITY SCHEDULE NO. 23

1. **Name:** Inks Dam Substation (LCRA)
2. **Facility Location:** The Inks Dam Substation is located at 2639 CR 301, Buchanan Dam, Llano County, Texas 78609.
3. **Points of Interconnection:** There are four (4) Points of Interconnection in the Inks Dam Substation generally described as:
 - where the jumper from IN-40, passing through CT-3, connects to IN-39.
 - where the jumper from IN-40 connects to IN-41.
 - where the jumper from the PEC distribution line connects to IN-43.
 - where the jumper from the PEC distribution line connects to IN-41.
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 in the 12.5 kV distribution circuit between IN-40 and IN-39. 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:**

PEC owns:

 - One (1) 12.5 kV distribution circuit including dead end insulators that attach to the dead end structure, conductors, and hardware
 - One (1) 12.5 kV distribution circuit breaker IN-40 including jumpers and protective relay packages
 - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit

LCRA TSC owns:

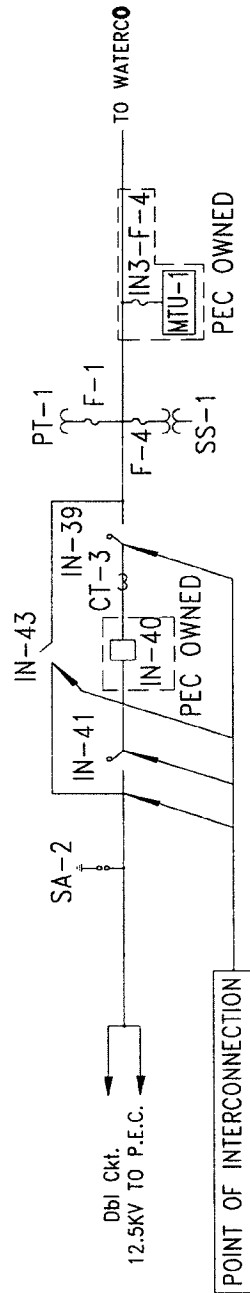
The Inks Dam Substation including, but not limited to, the following items:

 - 69 kV dead-end box structure, foundations, insulators and jumpers
 - One (1) 12.5 kV current transformer CT-3
 - One (1) 12.5 kV bus potential transformer PT-1 with associated fused disconnect switch
 - Three (3) 12.5 kV switches IN-39, IN-41 and IN-43
 - One (1) 12.5 kV surge arrester SA-2

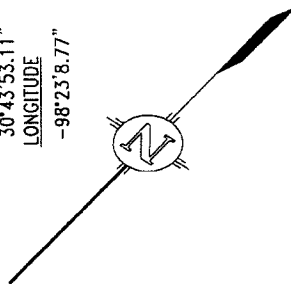
- Portable control house and battery
- One (1) 12.5 kV Station service SS-1 with associated fused disconnect switch

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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

INKS DAM ONE-LINE DIAGRAM



LATITUDE
30°43'53.11"
LONGITUDE
-98°23'8.77"



INKS DAM SUBSTATION

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING S145-E-0012.

FACILITY SCHEDULE NO. 24

1. **Name:** Lago Vista Substation (PEC)
2. **Facility Location:** The Lago Vista Substation is located at 6707 Lohman's Ford Rd., Lago Vista, Travis County, Texas 78645.
3. **Points of Interconnection:** There are Four (4) Points of Interconnection in the Lago Vista Substation generally described as:
 - where the 138 kV transfer bus terminal connector bolts to the expansion connector on the tubular jumper at switch 5013.
 - where the 138 kV operating bus terminal connector bolts to the 4 hole pad on switch 5009.
 - where the 138 kV transfer bus terminal connector bolts to the expansion connector on the tubular jumper at switch 5023.
 - where the 138 kV operating bus terminal connector bolts to the 4 hole pad on switch 5019.
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 transformers are inside T-1 and T-2. 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:**

PEC owns:

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

 - 138 kV dead-end structure including 2 heavy duty A-frames and 1 truss in bay #3, foundations, insulators and jumpers
 - One (1) 138 kV circuit breaker 5000 including foundation, jumpers and protective relay package
 - Four (4) 138 kV switches 3462, 4999, 5001 and 5003
 - One (1) 138 kV bus potential transformer PT-1
 - One (1) 138 kV wave trap and tuner WT-1
 - One (1) 138 kV coupling capacitor CC-1
 - One (1) 138 kV surge arrester
 - Two (2) 138 kV circuit switchers CS-3442 and CS-3455 with associated bypass switches 3447, 3457 and disconnect switches 3444, 3454

- Two (2) power transformers T-1 and T-2 with associated surge arresters
- Two (2) metering current transformers CT-1 and CT-4 (internal to T-1 and T-2)
- 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 and associated cabling
- Two (2) 12.5 kV bus potential transformers PT-2 and PT-3 with associated fused disconnect switches
- Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units
- One (1) 138 kV circuit switcher CS-5085 with associated disconnect switch 5084
- One (1) 138 kV capacitor bank CAP-1 including support structure and foundation
- One (1) 69 kV capacitor bank potential transformer PT-4
- One (1) 138 kV capacitor bank current transformer CT-3
- One (1) 25 kV single phase current transformer CT-5
- Control house and battery bank
- Two (2) 12.5 kV station service SS-1 and SS-2 with associated fused disconnect switches

LCRA TSC owns:

- 138 kV dead-end structure including 2 heavy duty A-frames and 2 trusses in bays #1 and #2, foundations, insulators and jumpers
- Two (2) 138 kV circuit breakers 5010 and 5020 including foundation, jumpers and protective relay package
- Six (6) 138 kV switches 5009, 5011, 5013, 5019, 5021 and 5023
- Two (2) 138 kV wave traps and tuners WT-2 and WT-3
- Two (2) 138 kV coupling capacitors CC-2 and CC-3
- One (1) 138 kV surge arrester SA-13

- 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

THIS IS NOT A COMPLETE ONE-LINE DIAGRAM
FOR A COMPLETE ONE-LINE DIAGRAM OF THIS
SUBSTATION, REFER TO DRAWING S233-F-0002.

FACILITY SCHEDULE NO. 25

1. **Name:** Lakeway Substation (PEC/LCRA)
2. **Facility Location:** The Lakeway Substation is located at 1213 Lohman's Crossing Rd., Lakeway, Travis County, Texas 78734.
3. **Points of Interconnection:** There is one (1) Point of Interconnection in the Lakeway Substation generally described as:
 - where the jumper from the 138 kV operating bus connects to the 4 hole pad on switch 3424.
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 in the total bay for T-1. 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:**

PEC owns:

The west side of the Lakeway Substation including, but not limited to, the following items:

 - 138 kV dead-end structures (PEC yard) , foundations, insulators and jumpers
 - One (1) circuit switcher CS-3425 with associated disconnect switch 3424 and bypass switch 3427
 - One (1) power transformer T-1 with associated surge arresters
 - All distribution circuits including dead end insulators that attach to the dead end structure, conductors, and hardware
 - All distribution circuit breakers including jumpers, protective relay packages and foundations
 - All distribution and total bays including A-frames, trusses, insulators, disconnect switches, surge arresters, 12.5 kV operating and transfer bus and associated cabling
 - One (1) 12.5 kV transformer bus disconnect switch LW1-5
 - One (1) 12.5 kV bus potential transformer PT-1 with associated fused disconnect switch
 - One (1) modulation transformer MTU-1 with associated surge arrester, fused disconnect switch and OMU unit

- Control house
- Battery house and battery
- One (1) 12.5 kV station service SS-1 with associated fused disconnect switch

LCRA TSC owns:

The east side of the Lakeway Substation including, but not limited to, the following items (some of this equipment is in the PEC yard)

- 138 kV dead-end structures (LCRA TSC yard) , foundations, insulators and jumpers
- Conductors, insulators and jumpers connecting bays #3, #4 and #5 in the LCRA TSC yard to bays #3, #4 and #5 in the PEC yard.
- 138 kV operating bus including structures, insulators, foundations and jumpers
- Two (2) 138 kV circuit breakers 13390 and 13400 including foundation, jumpers and protective relay packages
- Two (2) 138 kV coupling capacitor voltage transformers CCVT-1 and CCVT-2
- Two (2) 138 kV surge arresters SA-8 and SA-9
- Four (4) 138 kV switches 13389, 13391, 13399 and 13401
- One (1) 12.5 kV metering current transformer CT-1

- 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.

LCRA TSC – PEC

FACILITY SCHEDULE NO. 26

1. **Name:** Manchaca Substation (PEC)
2. **Facility Location:** The Manchaca Substation is located at 2111 W. FM 1626, Manchaca, Travis County, Texas 78652.
3. **Points of Interconnection:** There are two (2) Points of Interconnection in the Manchaca Substation generally described as:
 - where the 138 kV transfer bus expansion connector bolts the 4 hole pad on switch 8353.
 - where the 138 kV operating bus expansion connector bolts the 4 hole pad on switch 8349.
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 24.9 kV. The metering current transformers are in the 24.9 kV transformer bus for T-1 and in the 24.9 kV transformer bus for T-2. The bus potential transformers are located on T-1 operating bus and T-2 operating bus.
8. **One Line Diagram Attached:** Yes
9. **Description of Facilities Owned by Each Party:**

PEC owns:

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

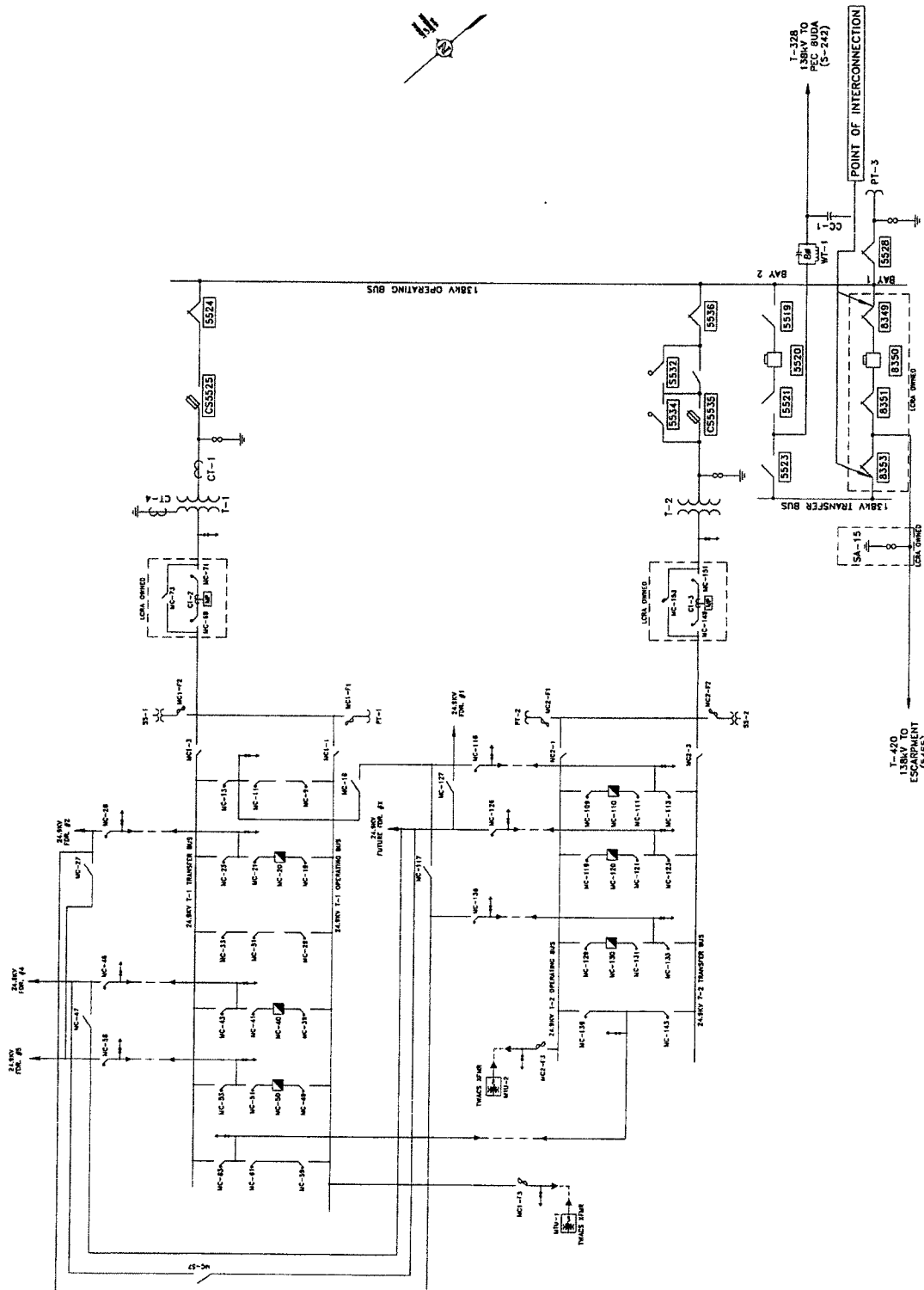
 - 138 kV dead-end structures (2 A-frames and truss in bay #2), foundations, insulators and jumpers
 - 138 kV operating and transfer bus including structures, insulators, foundations and jumpers
 - One (1) 138 kV circuit breaker 5520 including foundation, jumpers and protective relay package
 - One (1) 138 kV surge arrester
 - One (1) 138 kV bus potential transformer PT-3
 - Four (4) 138 kV switches 5519, 5521, 5523 and 5528
 - One (1) 138 kV wave trap WT-1
 - One (1) 138 kV coupling capacitor CC-1
 - Two (2) circuit switchers CS-5525 and CS-5535 with associated bypass switches 5532, 5534 and disconnect switches 5524, 5536
 - Two (2) power transformers T-1 and T-2 with associated surge arresters

- One (1) 138 kV current transformer CT-1
- One (1) single phase external current transformer CT-4
- 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 and associated cabling
- Two (2) 24.9 kV bus potential transformer PT-1 and PT-2 with associated fused disconnect switches
- Two (2) modulation transformers MTU-1 and MTU-2 with associated surge arresters, fused disconnect switches and OMU units
- Two (2) 24.9 kV station service SS-1 and SS-2 with associated fused disconnect switches
- Control house (24' X 28') and battery bank

LCRA TSC owns:

- 138 kV dead-end structures (1 A-frames and truss in bay #1), foundations, 3" bus, insulators and jumpers
- One (1) 138 kV surge arrester SA-15
- One (1) 138 kV circuit breaker 8350 including foundation, jumpers and protective relay package
- Three (3) 138 kV switches 8349, 8351, 8353 including stands and foundations
- Two (2) 24.9 kV metering current transformers CT-2 and CT-3 with associated low voltage disconnect and bypass switches MC-73, MC-69, MC-71, MC-149, MC-153 and MC-151
- Control house (21' X 27') and battery
- Underfrequency relay panel

- 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:** PEC and LCRA TSC are to share access to the substation by PEC and LCRA TSC locks in the substation entrance gate; along with control house owner's locks on the control house doors.



MANCHACA SUBSTATION