



ERAS 2025-001

Incremental Long-Term Congestion Rights Study Report

ERAS-2025-034



Published on 06/08/2026

By SPP Generation Interconnections Dept.

REVISION HISTORY

DATE OR VERSION NUMBER	AUTHOR	CHANGE DESCRIPTION
06/08/2026	SPP	Initial Report

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INTRODUCTION

Incremental Long-Term Congestion Rights (ILTCRs) were made available by FERC 685 Guideline 3 as a reimbursement mechanism for sponsors of transmission upgrades. The guideline specifies that long-term firm transmission rights made feasible by transmission upgrades or expansions must be available upon request to any party that pays for such upgrades or expansions in accordance with the transmission organization's prevailing cost allocation methods for upgrades or expansions. Effective July 1, 2020, ILTCR is the default cost recovery mechanism for eligible Network Upgrades (NU) with Directly Assigned Upgrade Cost (DAUC) as a result of a Generation Interconnection Study (GIS), Aggregate Transmission Service Study (ATSS), or a Sponsored Upgrade Study in SPP.

The objective of the ILTCR analysis is to determine the incremental Available Transfer Capability (ATC) created on each of the Upgrade Sponsor submitted source-to-sink paths over a ten-year period resulting from the construction of the Network Upgrade. The Upgrade Sponsor may then have the option to use the results of this study to obtain candidate ILTCRs on the path selected.

The ILTCR study process was completed for ERAS-2025-034 (the Customer) that has Directly Assigned Upgrade Costs (DAUC) for the following network upgrades from ERAS 2025-001 Studies.

- Build the CARTHAG5 to CARTHG 2 161kV Transformer 3 (ERAS 2025-001)
- Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1 (ERAS 2025-001)
- Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2 (ERAS 2025-001)

STUDY INPUTS

MODEL BASIS

The 2025 ITP Transmission Services (TS) cases were the starting point for the analysis. The following details specify the particular models utilized for this evaluation.

- Model years 2029, 2034
 - Summer Peak (2029SP, 2034SP)
 - Winter Peak (2029WP, 2034WP)
 - Light Load (2029 LP, 2034LP)

MONITORED FACILITIES

The monitored elements include all SPP control area branches, ties, and buses 69 kV and above, and all first tier Non-SPP control area branches and ties 100 kV and above. NERC Power Transfer Distribution Flowgates for SPP and first tier Non-SPP control areas are monitored. Additional NERC Flowgates are monitored in second tier or greater Non-SPP control areas.

- All branches and ties within the following areas:
 - SPP Internal Areas for 60kV – 999kV facilities:
 - 506– 546, 640 – 659, 998, 999
 - SPP External Areas for 100kV – 999kV facilities:
 - 327, 330, 351, 356, 502, 600, 615, 620, 627, 635, 661, 680
- NERC, SPP, and Tier 1 Permanent Monitor Flowgates (thermal)

CONTINGENCY EVENTS

The contingency set includes all SPP control area branches and ties 69kV and above, first tier Non-SPP control area branches and ties 115 kV and above, any defined contingencies for these control areas, and generation unit outages for the SPP control areas with SPP reserve share program redispatch.

- All branches, ties, shunts, and generators within the following areas:
 - SPP Internal Areas for 60kV – 999kV facilities: o
 - 515 – 546, 640, 641, 642, 645, 650, 652, 659, 998, 999
 - SPP External Areas for 100kV – 999kV facilities:
 - 327, 330, 351, 356, 502, 600, 615, 620, 627, 635, 661, 680
- NERC, SPP, and Tier 1 Permanent Contingent Flowgates
- SPP T.O. Specific P1, P2, P4, and P5 TPL-005-1 Contingencies
- SPP T.O. Specific Op Guide Implementation

NETWORK UPGRADES

The Network Upgrades were sorted based on construction lead-time in order to reflect the sequence of in-service dates for the upgrades. Each Network Upgrade was evaluated sequentially and as a standalone addition. Sequentially, the first Network Upgrade was evaluated in comparison to the TS Case. The second Network Upgrade was evaluated on top of the previously added Network Upgrade. The process was repeated until all Network Upgrades were evaluated. Network

Upgrades that share the same construction lead-time were evaluated as incremental upgrades to the final set of Network Upgrades with the same lead-times. The studied Network Upgrades and associated lead time for the Customer is listed in Table 1.

Table 1: Network Upgrades

Upgrade ID	Upgrade Name	Estimated Lead-Time (months)
172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	36
172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	36
172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	36

CONTINGENT UPGRADES

Contingent upgrades are not yet in-service. These facilities have been assigned to higher queued interconnection customers. These facilities were included in the models respective of their estimated lead-time for this study prior to determining the incremental transfer amount that each Network Upgrade provided. The list of contingent upgrades and their associated lead-time for the participating Customers is listed in Table 2

Table 2: Contingent Upgrade Sequence

Upgrade ID	Upgrade Name	Estimated Lead-Time (months)
NTC - 220965	Dunjee-Reno 138 kV Ckt 1 Rebuild	36
NTC - 220965	Trosper-Reno 138 kV Ckt 1 Rebuild	36
NTC	Multi - Horseshoe Lake Reconfiguration	36
NTC - 220994	Line - Crawfish Draw - Phantom 765 kV New Line (2025 ITP)	36
UID - 170597	Build New Andrews to Road Runner 345 kV Line	36
NTC - 210485	Cleveland Jct - Anadarko 138 kV Ckt 1 Voltage Conversion	36
NTC - 220941	Line - Holcomb - Sidney 345 kV Ckt 1 New Line	54
NTC - 220812	Potter to Beckham 345 kV Line (2024 ITP)	36
NTC - 220808	Evans Energy Center North - Maize 138 kV Ckt 1 Rebuild	30
NTC - 220751	Ellsworth Tap - Great Bend 115 kV Ckt 1 Structure Upgrade	12
NTC - 210715	Fargo 230 kV Terminal Upgrade	6

CUSTOMER TRANSFER PATHS

The Customer is eligible to select up to three (3) source-to-sink transfer paths per Network Upgrade. The list of valid source-to-sink paths is posted on the SPP OASIS site under Source/Sink Summary and were available to Customers with a valid OASIS certificate.

Customers may select paths for ILTCR studies using their new generator that was studied as a source. The generator must be registered in the Marketplace before it is able to participate in the Congestion Hedging process.

Each source-to-sink transfer path was collected by SPP for the Customer and those submissions are captured in the Results section.

STUDY METHODOLOGY

TRANSFER ANALYSIS

A DC transfer analysis was conducted using PowerGEM TARA to determine the limiting flowgates in each applicable case for the respective transfer paths provided by the Customer. Constraints were defined as any overloaded facility in which the transfer had three (3) percent or more TDF or OTDF impact for system intact or contingency conditions respectively. AC Contingency Analysis was performed on each case to identify existing overloaded flowgates that were not caused by the Customer, Network Upgrade, or the source-to-sink transfer path. These flowgates were filtered out of the transfer analysis results for the respective case in which they were reported in the AC Contingency Analysis.

Once the initial DC limiting flowgates were filtered to valid results, the top five (5) limiting flowgates in each applicable case for the respective transfer paths provided by the Customer were AC verified. If the AC verified results reported a non-converged condition and all other AC verified transfers were not zero, then the AC non-converged condition was reviewed for appropriate adjustments until an AC transfer limit was established. If no adjustments were found to resolve the AC non-converged condition, then the AC transfer limit was reported as 0 MW to reflect the condition in which no transfer could be achieved.

With the transfer limits AC verified, the deltas between the minimum AC transfer amounts across all analyzed cases for each path with and without the associated Network Upgrade were determined as follows:

- If $ATC_{pre-NU} < 0$ and $ATC_{post-NU} < 0$, then individual increment = 0
- If $ATC_{pre-NU} < 0$ and $ATC_{post-NU} > 0$, then individual increment = $ATC_{post-NU}$
- If $ATC_{pre-NU} > 0$ and $ATC_{post-NU} > 0$, then individual increment = $ATC_{post-NU} - ATC_{pre-NU}$

If the Network Upgrade costs were shared between multiple Customers, then the minimum delta was allocated to each participating Customer in the same proportion as the pro-rata share of the total cost of the upgrade allocated. The lowest amount of candidate MWs that can be awarded is 0.1 MW. Therefore, any candidate MWs below 0.1 MWs is reported as 0.0 MWs.

ILTCR STUDY RESULTS

Table 3 summarizes the minimum incremental ATC created across all seasons for each of the source-to-sink paths provided by the Customer for the Network Upgrades.

Appendix A includes the detailed results of the top five (5) most limiting flowgates for each transfer path as submitted by the Customer.

Table 3: ERAS-2025-034 Candidate ILTCRs

NU #	NU	Source	Sink	Min Delta (MW)	Cost Allocation (%)	cILTCR (MW)
172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EC_01	EDE	80.9	100.00%	80.9
172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.NORTHFORK	EDE	0	100.00%	0
172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.SLCC	SPRM_NIXA	0	100.00%	0
172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	EDE	0	2.20%	0
172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	MPSGRNWD1UN1	0	2.20%	0
172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSOSBORN	EDE	0	2.20%	0
172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIGRDNCT1UN2	EDE	0	4.97%	0
172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIHOLCOM1UN1	EDE	0	4.97%	0
172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIRUBART	WR.CANEYRIVER	0	4.97%	0

CONCLUSION

The ILTCR analysis determined the incremental ATC created on the Customer submitted source-to-sink paths as provided by the associated Network Upgrade. The Customer may choose the one source-to-sink path in which to receive candidate ILTCRs based on the ATC results presented. If a source-to-sink path that reported no incremental ATC (0 MW) is chosen, then the Customer will not receive any candidate ILTCRs for the Network Upgrade. This data will be included in the applicable agreement(s) and executed before filing with FERC.

The Customer must notify SPP 45 days in advance of energization of the associated Network Upgrade via RMS ticket. Tracking of the Network Upgrade progress can be achieved by utilizing the SPP Quarterly Project Tracking workbooks posted on the SPP website. Once the Network Upgrade is energized, SPP will make available TCR MWs for the candidate ILTCR until the end of that TCR year in the next feasible monthly TCR auction.

APPENDIX A

IC	NU	Network Upgrade Name	Source	Sink	Limit	Case	Monitored Facility	Contingency Name	Base FCITC	Upgrade FCITC	ATC Increase
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EC_01	EDE	1	34SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 69.0 547591 MON383 2 69.0 1	42.6	123.5	80.9
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EC_01	EDE	2	29SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 69.0 547591 MON383 2 69.0 1	123.3	146.1	22.8
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EC_01	EDE	3	29LP0	547479 LAR382 5 161 547480 MON383 5 161 1	505488 CARTHAG5 161 547479 LAR382 5 161 1	146	173.3	27.3
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EC_01	EDE	4	34LP0	547479 LAR382 5 161 547480 MON383 5 161 1	505488 CARTHAG5 161 547479 LAR382 5 161 1	173.4	184.1	10.7
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EC_01	EDE	5	34LP0	547479 LAR382 5 161 505488 CARTHAG5 161 1	547479 LAR382 5 161 547480 MON383 5 161 1	184.1	194.1	10
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.NORTHFORK	EDE	1	29LP0	547485 CAR395 5 161 505488 CARTHAG5 161 1	547476 ASB349 5 161 547477 CJ 366 5 161 1	65.2	64.6	0
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.NORTHFORK	EDE	2	34LP0	547485 CAR395 5 161 505488 CARTHAG5 161 1	547476 ASB349 5 161 547477 CJ 366 5 161 1	96.2	95.4	0
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.NORTHFORK	EDE	3	29LP0	547476 ASB349 5 161 547477 CJ 366 5 161 1	547476 ASB349 5 161 547491 PUR421 5 161 1	135.7	135.4	0
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.NORTHFORK	EDE	4	29LP0	547477 CJ 366 5 161 547490 FIR417 5 161 1	547476 ASB349 5 161 547491 PUR421 5 161 1	138.9	138.6	0
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.NORTHFORK	EDE	5	29LP0	547490 FIR417 5 161 547467 ORO110 5 161 1	547476 ASB349 5 161 547491 PUR421 5 161 1	150	149.7	0
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.SLCC	SPRM_NIXA	1	29SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 ORO110 5 161 547469 RIV4525 161 1	9.6	5.1	0

IC	NU	Network Upgrade Name	Source	Sink	Limit	Case	Monitored Facility	Contingency Name	Base FCITC	Upgrade FCITC	ATC Increase
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.SLCC	SPRM_NIXA	2	34SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 ORO110 5 161 547469 RIV4525 161 1	20.8	16.4	0
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.SLCC	SPRM_NIXA	3	34SP0	505501 NIXA 2 69.0 505543 NX ESPY2 69.0 1	505544 NIXA NE2 69.0 549903 JRPS 69B-2 2 69.0 1	29.8	29.8	0
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.SLCC	SPRM_NIXA	4	34SP0	549903 JRPS 69B-2 2 69.0 505544 NIXA NE2 69.0 1	505501 NIXA 2 69.0 505543 NX ESPY2 69.0 1	29.8	29.8	0
ERAS-2025-034	172045	Build the CARTHAG5 to CARTHG 2 161kV Transformer 3	EDE.SLCC	SPRM_NIXA	5	29SP0	505501 NIXA 2 69.0 505543 NX ESPY2 69.0 1	505544 NIXA NE2 69.0 549903 JRPS 69B-2 2 69.0 1	34.3	34.3	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	EDE	1	29SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 ORO110 5 161 547469 RIV4525 161 1	22.4	22.4	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	EDE	2	29LP0	532995 OTTRCRK4 138 533001 ALTOONA4 138 1	P23:345:KCPL:LACYGNE-R4-6:EHV:::	48.3	48.3	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	EDE	3	34SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 ORO110 5 161 547469 RIV4525 161 1	69.8	69.8	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	EDE	4	29SP0	542982 IATAN 7 345 996653 IATAN11 161 11	P23:345:KCPL:IATAN-R7-9:EHV:::	82.1	82.1	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	EDE	5	34SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 69.0 547591 MON383 2 69.0 1	126.1	126.1	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	MPSGRNWD1UN1	1	29SP0	542982 IATAN 7 345 996653 IATAN11 161 11	P23:345:KCPL:IATAN-R7-9:EHV:::	71.7	71.7	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	MPSGRNWD1UN1	2	29WP0	541218 GRNWD 5 161 541405 GRNWD_EC12_5 161 1	Base Case	132.6	132.6	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	MPSGRNWD1UN1	3	29LP0	541218 GRNWD 5 161 541405 GRNWD_EC12_5 161 1	Base Case	133.1	133.1	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	MPSGRNWD1UN1	4	34LP0	541218 GRNWD 5 161 541405 GRNWD_EC12_5 161 1	Base Case	133.1	133.1	0

Southwest Power Pool, Inc.

IC	NU	Network Upgrade Name	Source	Sink	Limit	Case	Monitored Facility	Contingency Name	Base FCITC	Upgrade FCITC	ATC Increase
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSIATANUN1	MPSGRNWD1UN1	5	29SP0	996653 IATAN11 161 541350 IATAN5 161 11	P23:345:KCPL:IATAN-R7-9:EHV::	142.5	142.5	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSOSBORN	EDE	1	29SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 OR0110 5 161 547469 RIV4525 161 1	22.5	22.5	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSOSBORN	EDE	2	34SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 OR0110 5 161 547469 RIV4525 161 1	70.1	70.1	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSOSBORN	EDE	3	34SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 MON383 2 69.0 547591 69.0 1	126.1	126.1	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSOSBORN	EDE	4	29SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 MON383 2 69.0 547591 69.0 1	150	150	0
ERAS-2025-034	172063	Replace the SIBLEY 7 to SIBLEY 5 345kV Transformer 1	MPSOSBORN	EDE	5	29SP0	547478 DAD368 5 161 996627 DADEVILL 69.0 1	547478 DAD368 5 161 547493 BOL431 5 161 1	186.4	186.4	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIGRDNCT1UN2	EDE	1	29SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 OR0110 5 161 547469 RIV4525 161 1	20.7	20.7	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIGRDNCT1UN2	EDE	2	34SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 OR0110 5 161 547469 RIV4525 161 1	64.8	64.9	0.1
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIGRDNCT1UN2	EDE	3	34SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 MON383 2 69.0 547591 69.0 1	126	125.9	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIGRDNCT1UN2	EDE	4	29SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 MON383 2 69.0 547591 69.0 1	149.5	149.5	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIGRDNCT1UN2	EDE	5	34WP0	531445 GRDNCTY3 115 531480 KSAVWTP3 115 1	P12:115:SUNC:HOLCOMB- GARDEN:::HV:	218.6	230.4	11.8
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIHOLCOM1UN1	EDE	1	29SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 OR0110 5 161 547469 RIV4525 161 1	20.7	20.7	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIHOLCOM1UN1	EDE	2	34SP0	547498 STL439 5 161 547470 JOP145 5 161 1	547467 OR0110 5 161 547469 RIV4525 161 1	64.8	64.9	0.1

IC	NU	Network Upgrade Name	Source	Sink	Limit	Case	Monitored Facility	Contingency Name	Base FCITC	Upgrade FCITC	ATC Increase
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIHOLCOM1UN1	EDE	3	34SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 69.0 547591 MON383 2 69.0 1	126	126	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIHOLCOM1UN1	EDE	4	29SP0	547400 MON376J2 69.0 547401 MON376 2 69.0 1	547405 MON352J2 69.0 547591 MON383 2 69.0 1	149.5	149.5	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIHOLCOM1UN1	EDE	5	29SP0	547478 DAD368 5 161 996627 DADEVILL 69.0 1	547478 DAD368 5 161 547493 BOL431 5 161 1	198.2	182.9	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIRUBART	WR.CANEYRIVER	1	34SP0	531200 RUBART 3 115 531378 HICKOCK3 115 1	P12:115:SUNC:RUBARTSTATION-PIONEERTAP:::HV:	101.5	101.3	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIRUBART	WR.CANEYRIVER	2	29SP0	531200 RUBART 3 115 531378 HICKOCK3 115 1	P12:115:SUNC:RUBARTSTATION-PIONEERTAP:::HV:	113.2	113.2	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIRUBART	WR.CANEYRIVER	3	34SP0	531378 HICKOCK3 115 531391 PIONEER3 115 1	531200 RUBART 3 115 531396 SATATAP3 115 1	129.9	129.9	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIRUBART	WR.CANEYRIVER	4	29SP0	531378 HICKOCK3 115 531391 PIONEER3 115 1	531200 RUBART 3 115 531396 SATATAP3 115 1	140.2	140.2	0
ERAS-2025-034	172046	Build the HOLCOMB7 to HOLCOMB3 345kV Transformer 2	SECIRUBART	WR.CANEYRIVER	5	34SP0	531200 RUBART 3 115 531396 SATATAP3 115 1	P12:115:SUNC:HICKOK-RUBARTSTATION:::HV:	168.1	168.1	0