

May 2024 ERCOT Monthly Operations Report

Reliability and Operations Subcommittee Meeting

July 11, 2024

Table of Contents

[1. Report Highlights 2](#_Toc162526249)

[2. Frequency Control 3](#_Toc162526250)

[2.1. Frequency Events 3](#_Toc162526251)

[2.2. ERCOT Contingency Reserve Events 4](#_Toc162526252)

[2.3. Responsive Reserve Events 4](#_Toc162526253)

[2.4. Load Resource Events 5](#_Toc162526254)

[3. Reliability Unit Commitment 5](#_Toc162526255)

[4. IRR, Wind, and Solar Generation as a Percent of Load 6](#_Toc162526256)

[5. Largest Net-Load Ramps 8](#_Toc162526257)

[6. Congestion Analysis 9](#_Toc162526258)

[6.1. Notable Constraints 9](#_Toc162526259)

[6.2. Generic Transmission Constraint Congestion 19](#_Toc162526260)

[6.3. Manual Overrides 19](#_Toc162526261)

[6.4. Congestion Costs for Calendar Year 2024 20](#_Toc162526262)

[7. System Events 21](#_Toc162526263)

[7.1. ERCOT Peak Load 21](#_Toc162526264)

[7.2. Load Shed Events 21](#_Toc162526265)

[7.3. Stability Events 21](#_Toc162526266)

[7.4. Notable PMU Events 21](#_Toc162526267)

[7.5. DC Tie Curtailment 21](#_Toc162526268)

[7.6. TRE/DOE Reportable Events 21](#_Toc162526269)

[7.7. New/Updated Constraint Management Plans 22](#_Toc162526270)

[7.8. New/Modified/Removed RAS 22](#_Toc162526271)

[7.9. New Procedures/Forms/Operating Bulletins 22](#_Toc162526272)

[8. Emergency Conditions 22](#_Toc162526273)

[8.1. OCNs 22](#_Toc162526274)

[8.2. Advisories 22](#_Toc162526275)

[8.3. Watches 23](#_Toc162526276)

[8.4. Emergency Notices 23](#_Toc162526277)

[9. Application Performance 23](#_Toc162526278)

[9.1. TSAT/VSAT Performance Issues 23](#_Toc162526279)

[9.2. Communication Issues 23](#_Toc162526280)

[9.3. Market System Issues 23](#_Toc162526281)

[10. Model Updates 23](#_Toc162526282)

[Appendix A: Real-Time Constraints 25](#_Toc162526283)

# Report Highlights

* The unofficial ERCOT peak demand was 77,122 MW for the month of May on 5/27/2024 HE 17:00; this is 8,963 MW more than the May 2023 peak demand of 68,159 MW on 05/05/2023 HE 18:00.
* There were 3 frequency events.
* There was 1 ERCOT Contingency Reserve Service (ECRS) event.
* There were no Responsive Reserve Service (RRS) events.
* There were 9 DC Tie Curtailments.
* There were 10 HRUC commitments.
* There were 3 AAN’s Issued due to a possible future Emergency Condition of reserve capacity deficiency.
* 2 OCN’s for Predicted Extreme Hot weather for the ERCOT Region.
* There was 1 Advisory issued for the South Texas Import Interface.
* There were 12 advisories issued for a geomagnetic disturbance of [K-7].
* There were 9 advisories issued for a geomagnetic disturbance of [K-8].
* There were 2 advisories issued for a geomagnetic disturbance of [K-9].
* There was 1 Watch due to projected reserve capacity shortage with no market solution.
* There was 1 Transmission Emergency Notice issued for the south Texas Import Interface.

# Frequency Control

## Frequency Events

The ERCOT Interconnection experienced 3 frequency events, which resulted from units tripping. The average event duration was 00:05:21

A summary of the frequency events is provided below. The reported frequency events meet one of the following criteria: Delta Frequency is 60 mHz or greater; the MW loss is 350 MW or greater; resource trip event triggered ECRS deployment. Frequency events that have been identified as Frequency Measurable Events (FME) for purposes of BAL-001-TRE-2 analysis are highlighted in blue. When analyzing frequency events, ERCOT evaluates PMU data according to industry standards. Events with an oscillating frequency of less than 1 Hz are inter-area, while higher frequencies indicate local events. Industry standards specify that damping ratio for inter-area oscillations should be 3.0% or greater. For the frequency events listed below, the ERCOT system met these standards and transitioned well after each disturbance. In the case of negative delta frequency, the MW Loss column could refer to load loss.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Date and Time** | **Delta Frequency** | **Max/Min Frequency** | **Duration of Event** | **PMU Data**  | **MW Loss** | **Load** | **IRR** | **Inertia** |
| **(Hz)** | **(Hz)** | **Oscillation Mode (Hz)** | **Damping Ratio** | **(MW)** | **%**  | **(MW-s)** |
| 5/12/2024 2:51:17 | 0.073 | 59.918 | 00:04:11 | 0.67 | 15% | 510 | 40,636  | 29% | 224,896  |
| 5/13/2024 3:44:13 | 0.051 | 59.918 | 00:03:30 | 0.65 | 11% | 392 |  41,182  | 10% | 248,131  |
| 5/22/2024 18:36:12 | 0.096 | 59.910 | 00:08:23 | N/A | N/A | 1146 |  64,955  | 33% | 300,942  |



(Note: All data on this graph encompasses frequency event analysis based on BAL-001-TRE-2.)

## ERCOT Contingency Reserve Events

There was 1 event where ERCOT Contingency Reserve MWs were released to SCED. The events highlighted in blue were related to frequency events reported in Section 2.1 above.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date and Time Released to SCED | Date and Time Recalled | Duration of Event | Maximum MWs Released | Comments |
| 5/8/2024 19:07 | 5/8/2024 20:48 | 1:41:00 | 1826.8 | Insufficient Capacity for projected net-load ramp |

## Responsive Reserve Events

There were 0 events where Responsive Reserve MWs were released to SCED.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date and Time Released to SCED** | **Date and Time Recalled** | **Duration of Event** | **Maximum MWs Released** | **Comments** |
| N/A | N/A | N/A | N/A | N/A |

## Load Resource Events

There was 1 event where Load Resource MWs were released to SCED.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Date and Time Released to SCED** | **Date and Time Recalled** | **Duration of Event** | **Maximum MWs Released** | **Comments** |
| 05/16/202403:03:41 CST | 05/16/2024 06:45:33 CST | 03:41:52 | 208.5 | Transmission Related Contingency |

# Reliability Unit Commitment

ERCOT reports on Reliability Unit Commitments (RUC) monthly. Commitments are reported grouped by operating day and weather zone. The total number of hours committed is the sum of the hours for all the units in the specified region. Additional information on RUC commitments can be found on the MIS secure site at Grid 🡪 Generation 🡪 Reliability Unit Commitment.

There were no DRUC commitments.

There were 10 HRUC commitments.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Resource Location** | **# of Resources** | **Operating Day** | **Total # of Hours Committed** | **Total MWhs** | **Reason for Commitment** |
| SOUTHERN  | 4 | May 9, 2024 | 39 |  1,654.0  |  I\_PASP  |
|  SOUTH\_CENTRAL  | 1 | May 13, 2024 | 6 |  1,200.0  |  Capacity  |
|  SOUTHERN  | 1 | May 16, 2024 | 9 |  1,880.0  |  DRESMCM8  |
|  NORTH\_CENTRAL, SOUTH\_CENTRAL  | 3 | May 21, 2024 | 15 |  1,382.0  |  capacity, E\_PASP  |
|  NORTH\_CENTRAL  | 1 | May 24, 2024 | 6 |  342.0  |  Capacity  |

# IRR, Wind, and Solar Generation as a Percent of Load

The graph below shows the maximum, minimum and average aggregate solar, wind and IRR output as a percentage of total ERCOT load when evaluated as 10-minute averaged intervals, over the past 13 months. Current wind and solar generation and penetration records are listed in the footnote below[[1]](#footnote-2). Maximum IRR penetration for the month was 62.99% on 05/15/2024 interval ending 10:00 and minimum IRR penetration for the month was 7.06% on 05/17/2024 interval ending 01:40.



During the hour of peak load for the month, hourly integrated wind generation was 7,534 MW and solar generation was 15,700 MW. The graph below shows the wind and solar penetration percentage during the hour of the peak load in the last 13 months.



 Lastly, the graph below shows the minimum wind, solar, and IRR output during the peak load hour as a percentage of the daily peak load for every day in the month.



# Largest Net-Load Ramps

The net-load ramp is defined as the change in net-load (load minus wind and PVGR generation) during the defined time horizon. Such a variation in net-load needs to be accommodated in grid operations to ensure that the reliability of the grid is satisfactorily maintained. The largest net-load ramp during 5-min, 10-min, 15-min, 30-min and 60-min in May 2024 was 1,771 MW, 2,318 MW, 3,153 MW, 4,974 MW, and 8,686 MW, respectively. The comparison with respect to the historical values is given in the table below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Month and Year** | **5 min** | **10 min** | **15 min** | **30 min** | **60 min** |
| May-14 | 914 MW | 1468 MW | 2264 MW | 3123 MW | 4331 MW |
| May-15 | 1156 MW | 1770 MW | 2088 MW | 3242 MW | 5318 MW |
| May-16 | 871 MW | 1324 MW | 1804 MW | 2945 MW | 4897 MW |
| May-17 | 1109 MW | 1422 MW | 1883 MW | 3149 MW | 5348 MW |
| May-18 | 1173 MW | 1330 MW | 1845 MW | 3382 MW | 6508 MW |
| May-19 | 1066 MW | 1767 MW | 2483 MW | 4227 MW | 5146 MW |
| May-20 | 988 MW | 1529 MW | 1852 MW | 3104 MW | 5757 MW |
| May-21 | 1414 MW | 1664 MW | 1967 MW | 2874 MW | 4860 MW |
| May-22 | 1,647 MW | 1,663 MW | 2,154 MW | 4,140 MW | 7,012 MW |
| May-23 | 986 MW | 1,590 MW | 2,191 MW | 3,670 MW | 5,981 MW |
| May-24 | 1,771 MW | 2,318 MW | 3,153 MW | 4,974 MW | 8,686 MW |
| 5/28/2024 | 5/28/2024 | 5/28/2024 | 5/13/2024 | 5/13/2024 |
| (IE 19:01) | (IE 19:01) | (IE 19:01) | (IE 19:40) | (IE 19:42) |
| All Months in 2014-2024 | 1,771 MW | 3,107 MW | 4,588 MW | 8,901 MW | 16,522 MW |
| 5/28/2024 | 1/29/2024 | 1/29/2024 | 1/29/2024 | 1/29/2024 |
| (IE 19:01) | (IE 17:05) | (IE 17:10) | (IE 17:11) | (IE 17:17) |

# Congestion Analysis

## Notable Constraints

Nodal protocol section 3.20 specifies that ERCOT shall identify transmission constraints that are binding in Real-Time three or more Operating Days within a calendar month. As part of this process, ERCOT reports congestion that meets this criterion to ROS. In addition, ERCOT also highlights notable constraints that have an estimated congestion rent exceeding $1,000,000 for a calendar month. These constraints are detailed in the table below, including approved transmission upgrades from TPIT that may provide some congestion relief based on ERCOT’s engineering judgement. Rows highlighted in blue indicate the congestion was affected by one or more outages. For a list of all constraints activated in SCED, please see Appendix A at the end of this report.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Contingency Name** | **Overloaded Element** | **Contingency Name** | **Overloaded Element** | **# of Days Constraint Binding** | **Congestion Rent** | **Transmission Project** |
|  |
| DSALHUT5 | 1710\_\_C | SALSW - HUTTO 345KV | Bell County - Salado Switch 138kV | 10 | $15,188,339.13 |   |  |
| BASE CASE | WESTEX | Basecase | WESTEX GTC | 18 | $14,975,246.23 |   |
| MHARNED5 | BURNS\_RIOHONDO\_1 | Manual dbl ckt for NEDIN-BONILLA 345kV & RIOH-PRIM138kV | Burns Sub - Rio Hondo 138kV | 23 | $11,595,344.83 |   |
| MPASTNE5 | BURNS\_RIOHONDO\_1 | manual double NEDIN to PALMITO 345 & NEDIN to STEWART 345 | Burns Sub - Rio Hondo 138kV | 11 | $11,362,156.78 |   |
| BASE CASE | NE\_LOB | Basecase | NE\_LOB GTC | 22 | $10,168,867.33 |   |
| BASE CASE | I\_KALO | Basecase | I\_KALO GTC | 5 | $9,271,603.32 |   |
| DCONLNG5 | 6471\_\_C | CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Morgan Creek Ses - Navigation Sub 138kV | 11 | $8,273,334.29 |   |
| SBRABND8 | MILL\_NEW\_1 | BRAND to BRAND LIN 1 | Miller - Newman 138kV | 2 | $7,947,122.01 |   |
| SNLAGAT8 | DEL\_MA\_LAREDO1\_1 | NORTH LAREDO Switch to GATEWAY WEST TAP LIN 1 | Del Mar - Laredo Plant 138kV | 4 | $7,378,175.29 |   |
| DMGSCON5 | 6471\_\_C | MGSES-LNGSW\_and\_MGSES-CONSW\_345\_DBLCKT | Morgan Creek Ses - Navigation Sub 138kV | 11 | $7,094,013.52 |   |
| SW\_GODE5 | 15060\_\_B | ODESSA EHV SWITCH to ODESSA EHV SWITCH LIN 1 | Koch Tap - Vealmoor 138kV | 12 | $5,926,631.75 |   |
| MDTMBEL5 | PRY\_PRY1 | MANUAL DOUBLE TMPCR - THSES AND TMPSW - BLFSW 345 KV DBCKT | Perry 138kV | 8 | $4,322,267.42 |   |
| SCOMCYP8 | 122T122\_1 | COMFORT to CYPRESS CREEK LIN 1 | Raymond F Barker - Comfort 138kV | 3 | $4,172,666.53 |   |
| SNWEWES8 | BURNS\_RIOHONDO\_1 | WESLACO SWITCH to NORTH MERCEDES LIN 1 | Burns Sub - Rio Hondo 138kV | 12 | $4,059,588.53 |   |
| SRAYRI38 | HAINE\_\_LA\_PAL1\_1 | LAS PULGAS to RAYMONDVILLE 2 LIN 1 | Haine Drive - La Palma 138kV | 9 | $3,629,559.23 |   |
| DWLFMOS5 | 6520\_\_E | WLFSW-MOSSW 345&WLFSW-ODEHV 345\_\_\_\_TRPLCKT-1of3 | Odessa Ehv Switch - Yarbrough Sub 138kV | 20 | $3,505,253.29 |   |
| DRESMCM8 | RINCON\_WHITE\_2\_1 | I\_DUPS - RESNIK & MCCAMPBE 2 138KV | Whitepoint - Rincon 138kV | 5 | $3,276,261.32 |   |
| DRNS\_TB5 | OB\_ZEN71\_A | Rns-Rtw & Sng-Tb 345kV | Obrien - Zenith 345kV | 12 | $3,203,262.87 |   |
| DBIGKEN5 | ORNT\_REDCRE1\_1 | Bighil-Kendal 345kV | Orient - San Angelo Red Creek 138kV | 9 | $3,199,217.64 |   |
| DBURAMD8 | CKT\_979\_1 | Pedernales-AMD&Burleson-Carson 138kV | Magnesium Plant - Northland 138kV | 1 | $3,149,088.73 |   |
| SMVHS\_M8 | L\_MILP\_STEWAR1\_1 | HIDALGO to HIDALGO LIN 1 | Stewart Road - Las Milpas 138kV | 1 | $2,836,593.93 |   |
| MNEDPOM5 | DEL\_MA\_LAREDO1\_1 | Double Manual NORTH EDINBURG TO POMELO LIN 1&2 345 kV | Del Mar - Laredo Plant 138kV | 2 | $2,763,885.25 |   |
| SBRABND8 | CNT\_MCCR\_1 | BRAND to BRAND LIN 1 | Centerville - Mccree 138kV | 1 | $2,734,948.81 |   |
| DWPWFWP5 | STPWAP39\_1 | TWR(345) WAP-WLF64 & WAP-WLY72 | South Texas Project - Wa Parish 345kV | 3 | $2,731,877.89 |   |
| SBWDDBM5 | LPLMK\_LPLNE\_1 | BLACKWATER DRAW SWITCH to DOUBLE MOUNTAIN SWITCH LIN 1 | Mackenzie Substation - Northeast Substation 115kV | 9 | $2,523,818.18 |   |
| SNEWMIL8 | COL\_BRAN\_1 | MILLER to NEWMAN LIN 1 | Brand - College 138kV | 1 | $2,480,380.90 |   |
| DFOWSMG5 | ASHERT\_CATARI1\_1 | FOWLRTON TO SAN MIGUEL DOUBLE CIRCUIT CONTINGENCY | Asherton - Catarina 138kV | 7 | $2,426,297.06 | AEP\_TCC\_AshertontoPiloncillo138kVLine\_rebuild |
| SDRISK28 | RKYROAD\_STILES\_1 | SKYWEST to DRIVER LIN 1 | Rocky Road - Stiles 138kV | 5 | $2,399,849.46 |   |
| DRAFTX\_8 | 255T279\_1 | CAGNON - RAFTER & CAGNON1 - TX\_RSRCH | Medina Lake - Pipe Creek 138kV | 1 | $2,337,353.32 |   |
| MHARNED5 | HAINE\_\_LA\_PAL1\_1 | Manual dbl ckt for NEDIN-BONILLA 345kV & RIOH-PRIM138kV | Haine Drive - La Palma 138kV | 20 | $2,293,271.85 |   |
| BASE CASE | PNHNDL | Basecase | PNHNDL GTC | 16 | $2,254,531.73 |   |
| MRACNED8 | BURNS\_RIOHONDO\_1 | manual NORTH EDINBURG to REDTAP LIN 1 | Burns Sub - Rio Hondo 138kV | 2 | $2,069,279.67 |   |
| DRNS\_TB5 | HK\_STL66\_A | Rns-Rtw & Sng-Tb 345kV | Hockley - Stone Lake 138kV | 8 | $1,950,501.64 |   |
| DCAGCI58 | 255T279\_1 | Cagnon-Kendal 345 &Cico-Mengcr 138 | Medina Lake - Pipe Creek 138kV | 14 | $1,930,357.42 |   |
| SVEAW\_L5 | 6217\_\_A | wett\_long\_draw to VEALMOOR - Sharyland Utilities LIN 1 | Willow Valley Switch - Gail Sub 138kV | 6 | $1,909,044.32 |   |
| MCENRAP5 | DEL\_MA\_LAREDO1\_1 | Manual Contingency Del Sol - Rapido 345KV & Cenizo - Del Sol 345KV | Del Mar - Laredo Plant 138kV | 1 | $1,836,129.94 |   |
| DWLDSCO5 | 15060\_\_B | LONG DRAW-FARADAY& SCOSW 345kV | Koch Tap - Vealmoor 138kV | 15 | $1,751,148.13 |   |
| SL\_MSTE8 | MVHLN\_STWRT\_1A\_1 | LAS MILPAS to LAS MILPAS LIN 1 | Stewart Road - Hiline Sub 138kV | 1 | $1,645,698.40 |   |
| BASE CASE | I\_PASP | Basecase | I\_PASP GTC | 2 | $1,515,953.52 |   |
| MMDOOAS5 | MSNPET04\_A | MANUAL MEADOW to OASIS CKT 99 LIN A | Monsan Cogen - Petson 138kV | 8 | $1,468,139.21 |   |
| DSCOTKW5 | 6215\_\_A | SCOSW TO TKWSW 345 DBLCKT | Bluff Creek Switch - China Grove Switch 138kV | 6 | $1,465,609.13 |   |
| SNEDSTE5 | BURNS\_RIOHONDO\_1 | NORTH EDINBURG to NORTH EDINBURG LIN 1 | Burns Sub - Rio Hondo 138kV | 2 | $1,411,340.52 |   |
| DBIGKEN5 | FORTMA\_YELWJC1\_1 | Bighil-Kendal 345kV | Yellow Jacket - Fort Mason 138kV | 1 | $1,340,103.25 |   |
| DSALTM58 | SEA\_AAT1 | SALSW TO KNBSW 345 AND TMPSW TO BELCNTY 138 DBLCKT | Seaton 138kV | 4 | $1,276,423.59 |   |
| SDELLAR8 | LARDVN\_LASCRU1\_1 | DEL MAR to DEL MAR LIN 1 | Laredo Vft North - Las Cruces 138kV | 6 | $1,196,304.10 |   |
| SL12LPL0 | LPLHY\_LPLDB\_1 | Dunbar Substation to Dunbar Substation LIN 1 | Holly Substation - Dunbar Substation 115kV | 2 | $1,188,372.53 |   |
| DNLALAR8 | DEL\_MA\_LAREDO1\_1 | NLARSW - Pilloncilo & Lard VFT North | Del Mar - Laredo Plant 138kV | 2 | $1,111,629.67 |   |
| DCONLNG5 | 6046\_\_A | CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Falcon Seaboard - Morgan Creek Ses 345kV | 6 | $1,109,971.92 |   |
| MLOBFOR5 | CATARI\_PILONC1\_1 | manual double Lobo to fowlerton 1&2 345 | Catarina - Piloncillo 138kV | 4 | $1,068,551.57 | AEP\_TCC\_AshertontoPiloncillo138kVLine\_rebuild (73100) |
| SX3BRA8 | D5\_S1A\_1 | BRAUNIG to BRAUNIG LIN 1 | Leon Creek - Howard 138kV | 8 | $1,028,842.16 |   |
| BASE CASE | DEL\_MA\_LAREDO1\_1 | Basecase | Del Mar - Laredo Plant 138kV | 1 | $1,007,367.02 |   |
| BASE CASE | ZAPSTR | Basecase | ZAPSTR GTC | 23 | $944,180.61 |   |
| DFOWSMG5 | CATARI\_PILONC1\_1 | FOWLRTON TO SAN MIGUEL DOUBLE CIRCUIT CONTINGENCY | Catarina - Piloncillo 138kV | 6 | $940,525.29 |   |
| DSCOTKW5 | 15060\_\_B | SCOSW TO TKWSW 345 DBLCKT | Koch Tap - Vealmoor 138kV | 9 | $842,406.27 |   |
| DCAGCO58 | 656T656\_1 | Cagnon-Kendal 345 & Cico-Comfor 138 | Bergheim - Kendall 345kV | 6 | $840,554.12 |   |
| DCONLNG5 | 15060\_\_B | CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Koch Tap - Vealmoor 138kV | 6 | $766,669.75 |   |
| DMTSCOS5 | 6437\_\_F | DMTSW TO SCOSW 345 DBLCKT | Knapp - Scurry Chevron 138kV | 11 | $734,412.64 |   |
| SELBBUL8 | 6470\_\_D | BULLDOG\_SU to BULLDOG\_SU LIN 1 | Forest Creek And Sand Bluff Wind Farms - Glasscock County North 138kV | 3 | $717,603.71 |   |
| SCISPUT8 | 6635\_\_G | CISCO to CISCO LIN 1 | Morton Valley (Oncor) - Eastland 69kV | 3 | $559,482.44 |   |
| DSALKLN5 | KLNSW\_MR1H | SALSW TO KLNSW 345 DBLCKT | Killeen Switch 345kV | 3 | $527,858.23 |   |
| BASE CASE | E\_PASP | Basecase | E\_PASP GTC | 6 | $497,310.85 |   |
| DFOWSMG5 | LARDVN\_LASCRU1\_1 | FOWLRTON TO SAN MIGUEL DOUBLE CIRCUIT CONTINGENCY | Laredo Vft North - Las Cruces 138kV | 7 | $452,990.65 |   |
| SBRAPIN8 | HAMILT\_MAVERI1\_1 | BRACKETTVILLE to BRACKETTVILLE LIN 1 | Hamilton Road - Maverick 138kV | 19 | $442,785.96 | AEP\_TCC\_Ganso - Hamilton Road 138 kV Line Rebuild (22RPG044, 55626) |
| DCAGTX\_8 | BIG\_FO\_PLEASA1\_1 | CAGNON - RAFTER & RAFTER - TX\_RSRCH | Big Foot - Pleasanton 138kV | 3 | $435,826.21 |   |
| DBIGSCH5 | BAKRFLD\_CEDCAN\_1 | Big Hill - Schneeman Draw & Big Hill - Schneeman Draw 2 | Cedar Canyon - Bakersfield 345kV | 4 | $424,297.73 | STEC\_63497\_BakersfieldToCedarCanyon (21RPG001, 63497) |
| DRNS\_TB5 | STLTB\_66\_A | Rns-Rtw & Sng-Tb 345kV | Stone Lake - Tomball 138kV | 3 | $423,966.76 |   |
| BASE CASE | EBONY\_GENTIE\_1 | Basecase | EBONY\_GENTIE\_1 GTC | 3 | $420,251.51 |   |
| DBIGSCH5 | PALOUS\_WOLFCA1\_1 | Big Hill - Schneeman Draw & Big Hill - Schneeman Draw 2 | Palouse - Wolfcamp 138kV | 8 | $352,063.74 |   |
| DBIGKEN5 | TREADW\_YELWJC1\_1 | Bighil-Kendal 345kV | Yellow Jacket - Treadwell 138kV | 10 | $326,681.88 |   |
| DBIGKEN5 | CARVER\_TINSLE1\_1 | Bighil-Kendal 345kV | Carver - Tinsley Tap 138kV | 4 | $322,608.31 |   |
| SNATBEA8 | 6144\_\_A | BEALS CREEK SUB to BEALS CREEK SUB LIN \_A | Big Spring West - Stanton East 138kV | 5 | $304,501.61 |   |
| SBLSJAC8 | MYRA\_VAL\_1 | JACK COUNTY to RENO LIN 1 | Myra - Valley View Bepc 138kV | 7 | $288,909.99 |   |
| DSTEXP12 | BLESSI\_LOLITA1\_1 | South Texas # 1 & # 2 | Blessing - Lolita 138kV | 3 | $242,656.13 |   |
| SVEAW\_L5 | CEDRHI\_SILT1\_1 | wett\_long\_draw to VEALMOOR - Sharyland Utilities LIN 1 | Cedar Hills - Silver Tap 69kV | 3 | $226,586.80 |   |
| BASE CASE | NELRIO | Basecase | NELRIO GTC | 15 | $208,553.63 |   |
| DCONLNG5 | CEDRHI\_SILT1\_1 | CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Cedar Hills - Silver Tap 69kV | 3 | $174,705.41 |   |
| MPRIRIO8 | HAINE\_\_LA\_PAL1\_1 | MANUAL PRIMERA TO RIO HONDO 138 KV | Haine Drive - La Palma 138kV | 3 | $169,090.02 |   |
| DLEGOUT5 | 50\_\_A | MANUAL DOUBLE NVARO-LEG & OUTSW-LEG 345 KV | Big Brown Ses - Jewett 345kV | 6 | $167,606.79 |   |
| SMV\_RI28 | CP\_MVCNT\_1 | EAST RIO HONDO SUB to EAST RIO HONDO SUB LIN 1 | Coffeeport - Central Avenue Sub 138kV | 8 | $159,556.98 |   |
| SBAKCED5 | 6056\_\_A | BAKERSFIELD SWITCHYARD to CEDAR CANYON LIN 1 | Longshore Switch - Consavvy Switch 345kV | 4 | $145,076.56 | Oncor\_FW\_81268\_Longshore – Consavvy 345 kV Double-Circuit Line Rebuild (23RPG029, 81268) |
| DBIGKEN5 | FORTMA\_YELWJC1\_1 | Bighil-Kendal 345kV | Yellow Jacket - Fort Mason 138kV | 4 | $144,469.41 |   |
| SBTPBNT8 | MYRA\_VAL\_1 | BENNETT ROAD SWITCH to WISE COUNTY LIN \_B | Myra - Valley View Bepc 138kV | 5 | $135,610.99 |   |
| DBIGKEN5 | HAMILT\_MAXWEL1\_1 | Bighil-Kendal 345kV | Hamilton Road - Maxwell 138kV | 14 | $120,366.68 |   |
| SSHKCRI8 | 940\_\_A | ENNIS to ENNIS LIN 1 | Ennis West Switch - Templeton 138kV | 5 | $111,094.79 | Oncor\_ME\_71156\_Ennis West Switch-Waxahachie Switch 138 kV Line (71156) |
| SHAYZO25 | 6T227\_1 | HAYS ENERGY to ZORN LIN 1 | Zorn - Hays Energy 345kV | 4 | $104,756.20 |   |
| DWPWFWP5 | DOWOAS27\_A | TWR(345) WAP-WLF64 & WAP-WLY72 | Oasis - Dow Chemical 345kV | 3 | $82,548.95 |   |
| DCAGCO58 | 583T583\_1 | Cagnon-Kendal 345 & Cico-Comfor 138 | Mason Creek - Bandera 138kV | 4 | $62,905.86 |   |
| SN\_SLON5 | N\_SHARPE\_XF1 | LON HILL to NELSON SHARPE LIN 1 | Nelson Sharpe 345kV | 6 | $59,976.75 |   |
| SMCEESK8 | MKLT\_TRNT1\_1 | MCELMURRAY to ESKOTA SWITCH LIN 1 | Merkel Tap - Trent 69kV | 3 | $57,817.57 |   |
| SBSPBUZ8 | 6135\_\_F | BIG SPRING SWITCH to BUZZARD DRAW SWITCH LIN \_A | Gunsight Switch - High Plain Pods 138kV | 3 | $40,896.20 |   |
| SFORYEL8 | HEXT\_MASONS1\_1 | FORT MASON to FORT MASON LIN 1 | Mason Switching Station - Hext Lcra 69kV | 3 | $33,670.82 |   |
| SBOSWHT8 | LKW\_WHT\_1 | BOSQUE SWITCH to WHITNEY LIN 1 | Whitney - Lake Whitney Tnp 138kV | 4 | $32,709.71 |   |
| DCONLNG5 | 6095\_\_G | CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Alkali Lake - Jim Payne Poi 138kV | 4 | $32,311.55 |   |
| SFORYEL8 | HEXT\_YELWJC1\_1 | FORT MASON to FORT MASON LIN 1 | Yellow Jacket - Hext Lcra 69kV | 5 | $31,548.73 |   |
| SMADSAP8 | MADDUX\_SAPOWE2\_1 | MADDUX to SAN ANGELO POWER STATION LIN 1 | Maddux - San Angelo Power Station 138kV | 4 | $29,028.00 |   |
| SRICGRS8 | 6840\_\_B | GRAHAM SES to RICE SWITCH LIN \_A | Anarene - Navy Kickapoo Switch 69kV | 3 | $24,867.68 |   |
| MPEAMOO8 | PEARSALL\_69\_4 | manual PEARSALL to MOORE 138 KV (PRIOR TO PEARSALL\_HORIZ.1 LINE ENERGIZATION) | Pearsall Switching Station 138kV | 4 | $22,579.05 |   |
| DCONLNG5 | 14040\_\_A | CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Polecat Creek Switch - Dewey Lake Tap 138kV | 4 | $21,105.54 |   |
| SCARFRI8 | ATSO\_SONR1\_1 | Carver to Carver LIN 1 | Atlantic Sonora - Sonora 69kV | 4 | $21,061.90 |   |
| SWHILON5 | BLESSI\_LOLITA1\_1 | LON HILL to WHITEPOINT LIN 1 | Blessing - Lolita 138kV | 3 | $19,652.72 |   |
| SBENS\_M8 | BENTS\_FRTER\_1B\_1 | SOUTH MCALLEN to BENTSEN LIN 1 | Frontera - South Mission 138kV | 5 | $6,815.74 |   |
| SBRAUVA8 | BRACKE\_ESCOND1\_1 | ODLAW SWITCH to ASPHALT MINES LIN 1 | Brackettville - Escondido 138kV | 3 | $4,963.91 |   |
| SCRMSAR8 | ORNT\_REDCRE1\_1 | SAN ANGELO RED CREEK to Weiss LIN 1 | Orient - San Angelo Red Creek 138kV | 3 | $2,730.66 |   |

## Generic Transmission Constraint Congestion

|  |  |
| --- | --- |
| GTC | Days Congestion |
| North Edinburg to Lobo | 29 |
| Zapata Starr | 28 |
| Panhandle GTC | 24 |
| West Texas Export | 24 |
| Nelson Sharpe to Rio Hondo | 18 |
| E\_PASP | 9 |
| E\_PATA | 7 |
| I\_KALO | 7 |
| North to Houston | 4 |
| I\_PASP | 3 |
| Hamilton | 1 |
| Culberson | 1 |
| Valley Export | 1 |

There was no activity on the remaining GTCs during the month.

Note: This is how many times a constraint has been activated to avoid exceeding a GTC limit, it does not imply an exceedance of the GTC occurred or that the GTC was binding.

## Manual Overrides

None

## Congestion Costs for Calendar Year 2024

The following table represents the top twenty active constraints for the calendar year based on the estimated congestion rent attributed to the congestion. ERCOT updates this list on a monthly basis.

|  |  |  |  |
| --- | --- | --- | --- |
| **Contingency** | **Overloaded Element** | **# of 5-min SCED** | **Estimated Congestion Rent (2024)** |
| MGSES TO CCRSW 345 AND BTRCK TO MGSES 345 DBLCKT | Tonkawa Switch - Morgan Creek Ses 345kV | 7442 | $87,576,954.87 |
| Basecase | WESTEX GTC | 14378 | $64,883,689.19 |
| BAKERSFIELD SWITCHYARD to CEDAR CANYON LIN 1 | Hargrove - Twin Buttes 138kV | 5254 | $38,340,408.00 |
| Basecase | NE\_LOB GTC | 17597 | $24,153,610.94 |
| BLACKWATER DRAW SWITCH to DOUBLE MOUNTAIN SWITCH LIN 1 | Northwest Substation - Mcdonald Substation 115kV | 4363 | $23,553,847.83 |
| Basecase | PNHNDL GTC | 16455 | $21,895,012.76 |
| Manual dbl ckt for NEDIN-BONILLA 345kV & RIOH-PRIM138kV | Burns Sub - Rio Hondo 138kV | 9842 | $17,393,191.79 |
| SALSW - HUTTO 345KV | Bell County - Salado Switch 138kV | 2025 | $16,961,830.38 |
| FOWLERTON TRX FOWLRTON\_AUTO1 345/138 | Laredo Vft North - Las Cruces 138kV | 6265 | $13,110,290.05 |
| CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Falcon Seaboard - Morgan Creek Ses 345kV | 6424 | $12,731,441.08 |
| SALSW TO KLNSW 345 DBLCKT | Harker Heights South - Killeen Switch 138kV | 5004 | $11,899,287.91 |
| EVERMAN SWITCH TRX EVRSW\_4\_1 345/138 | Everman Switch 345kV | 386 | $11,447,643.03 |
| Manual double NEDIN to PALMITO 345 & NEDIN to STEWART 345 | Burns Sub - Rio Hondo 138kV | 1256 | $11,362,156.78 |
| Basecase | I\_KALO GTC | 857 | $10,535,424.07 |
| CCRSW TO SWESW 345 AND BTRCK TO MGSES 345 DBLCKT | Tonkawa Switch - Morgan Creek Ses 345kV | 6234 | $10,452,257.39 |
| MANUAL DOUBLE TMPCR - THSES AND TMPSW - BLFSW 345 KV DBCKT | Perry 138kV | 2725 | $10,146,209.07 |
| Basecase | EASTEX GTC | 171 | $9,488,365.35 |
| KENDALL to COMFORT LIN 1 | Kerrville Stadium - Kendall 138kV | 637 | $9,018,980.30 |
| CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Morgan Creek Ses - Navigation Sub 138kV | 1812 | $8,562,776.67 |
| HCKSW TO ALLNC 345 AND HCKSW TO RNKSW 345 DBLCKT | Eagle Mountain Ses 345kV | 439 | $8,536,955.63 |

# System Events

## ERCOT Peak Load

The unofficial ERCOT peak load for the month was 77,122 MW and occurred on 05/27/2024, during hour ending 17:00.

Instantaneous peak was 77,366 MW

Actual peak for same month last year was 68,159 MW

## Load Shed Events

None.

## Stability Events

None.

## Notable PMU Events

ERCOT analyzes PMU data for any significant system disturbances that do not fall into the Frequency Events category reported in section 2.1. The results are summarized in this section once the analysis has been completed.

There were no PMU events outside of those reported in section 2.1.

## DC Tie Curtailment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Date** | **DC Tie** | **Curtailing Period** | **# of Tags Curtailed** | **Initiating Event** | **Curtailment Reason[[2]](#footnote-3),[[3]](#footnote-4)** |
| 5/7/2024 | DC\_N | 12:58 – 15:30 | 4 | North Tie Overscheduled | Requested by SPP |
| 5/7/2024 | DC\_R | 22:07 – 11:51 | 4 | Tie was derated to 150 MW |  |
| 5/8/2024 | DC\_R | 07:57 – 11:51 | 2 | Tie was derated to 150 MW |  |
| 5/8/2024 | DC\_R | 19:10 | 3 | Emergency in the CENACE (Mexico) Control area |  |
| 5/8/2024 | DC\_L | 19:11 – 21:03 | 3 | Emergency in the CENACE (Mexico) Control area |  |
| 5/9/2024 | DC\_L | 12:42 – 23:18 | 1 | Transmission Emergency in the Rio Grande Valley |  |
| 5/9/2024 | DC\_R | 12:42 – 23:18 | 2 | Transmission Emergency in the Rio Grande Valley |  |
| 5/24/2024  | DC\_R | 02:22 – 04:22 | 5 | Tie was derated to 150 MW |  |
| 5/24/2024  | DC\_R | 23:43  | 6 | Tie was derated to 150 MW |  |
| 5/28/20245/29/2024 | DC\_L | 22:06 – 09:16 | 4 | Forced outage |  |

## TRE/DOE Reportable Events

CenterPoint Submitted a DOE-417 for 05/02/2024 - Loss of electric service to more than 50,000 customers for 1 hour or more.

CenterPoint Submitted a DOE-417 for 05/16/2024 - Loss of electric service to more than 50,000 customers for 1 hour or more.

 BPUB Submitted a DOE 417 for 05/21/2024 - Suspicious activity to its Facility.

ONCOR Submitted a DOE-417 for 05/22/2024 - Loss of electric service to more than 50,000 customers for 1 hour or more.

LCRA Submitted a DOE-417 for 05/26/2024 - Physical threat to its Facility excluding weather or natural disaster related threats.

ONCOR Submitted a DOE-417 for 05/28/2024 - Loss of electric service to more than 50,000 customers for 1 hour or more.

CenterPoint Submitted a DOE-417 for 05/28/2024 - Loss of electric service to more than 50,000 customers for 1 hour or more.

## New/Updated Constraint Management Plans

The annual CMP Review

* New MPs: MP\_2024\_04, MP\_2024\_05, MP\_2024\_06, MP\_2024\_07, MP\_2024\_08, MP\_2024\_09, MP\_2024\_10, MP\_2024\_11
* Updated MPs: MP\_2011\_08, MP\_2012\_07, MP\_2012\_08, MP\_2016\_12, MP\_2021\_03, MP\_2022\_01, MP\_2022\_02, MP\_2022\_03, MP\_2022\_17, MP\_2022\_20, MP\_2023\_04, MP\_2023\_06, MP\_2023\_07, MP\_2023\_08, MP\_2023\_12, MP\_2024\_01
* New PCAP: PCAP\_2024\_03
* Updated PCAP: PCAP\_2010\_01, PCAP\_2010\_02

Outside of the Annual Review:

* New MP: none
* Updated MP: MP\_2023\_11
* New PCAP: PCAP\_2024\_01
* Updated PCAP: none

## New/Modified/Removed RAS

None.

## New Procedures/Forms/Operating Bulletins

|  |  |  |
| --- | --- | --- |
| **Date** | **Subject** | **Bulletin No.** |
| 05/30/2024 | Resource Desk V1 Rev 81  | 1139 |
| 05/30/2024 | Scripts V1 Rev 57  | 1140 |
| 05/30/2024 | Transmission and Security Desk V1 Rev 110  | 1141 |

# Emergency Conditions

## OCNs

|  |  |
| --- | --- |
| **Date and Time** | **Message** |
| May 2, 2024 12:00:13 CST | At 12:00, ERCOT issued an AAN due to a possible future Emergency Condition of reserve capacity deficiency beginning Tuesday May 7, 2024, HE 1700 through Wednesday May 8, 2024, HE 2200. ERCOT may Delay/Withdraw Approved or Accepted Resource Outages. ERCOT may seek up to 6,060 MW from an OAE and then make the OSA. On Friday May 3, 2024, at 12:00. ERCOT will execute an OAE if deemed necessary. Please notify ERCOT by email aan@ercot.com if a specific resource cannot be considered in the OAE.  |
| May 7, 2024 10:45:01 CST | OCN issued for the predicted extreme hot weather event for the ERCOT Region Wednesday, May 08, 2024.  |
| May 10, 2024 18:57:54 CST | The Space Weather Prediction Center has issued a GMD Warning of K-7 until 05/11/2024 [07:00] CPT. |
| May 15, 2024 12:30:05 CST | At 12:30, ERCOT issued an AAN due to a possible future Emergency Condition of reserve capacity deficiency beginning Friday May 17, 2024, HE 20 through Saturday May 18, 2024, HE 21. ERCOT may Delay/Withdraw Approved or Accepted Resource Outages. ERCOT may seek up to 3377 MW from an OAE and then make the OSA. On Thursday May 16, 2024, at 12:30. ERCOT will execute an OAE if deemed necessary. Please notify ERCOT by email aan@ercot.com if a specific resource cannot be considered in the OAE.  |
| May 16, 2024 10:30:00 CST | At 10:30, ERCOT issued an AAN due to a possible future Emergency Condition of reserve capacity deficiency beginning Monday May 20, 2024, HE 20 through Wednesday May 22, 2024, HE 22. ERCOT may Delay/Withdraw Approved or Accepted Resource Outages. ERCOT may seek up to 5265 MW from an OAE and then make the OSA. On Friday May 17, 2024, at 10:30. ERCOT will execute an OAE if deemed necessary. Please notify ERCOT by email aan@ercot.com if a specific resource cannot be considered in the OAE.  |
| May 21, 2024 1:00:17 CST | OCN has been issued for the predicted extreme hot weather event for the ERCOT Region for Friday, May 24, 2024 through Monday, May 27, 2024.  |

## Advisories

|  |  |
| --- | --- |
| **Date and Time** | **Message** |
| May 9, 2024 12:21:59 CST | A Transmission Advisory has been issued for the South Texas Import Interface.  |
| May 10, 2024 12:51:11 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [18:59].  |
| May 10, 2024 12:59:42 CST | Advisory issued for a geomagnetic disturbance of [K-8] until [18:59].  |
| May 10, 2024 1:42:59 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [16:00].  |
| May 10, 2024 2:13:13 CST | Advisory issued for a geomagnetic disturbance of [K-8] until [16:00].  |
| May 10, 2024 4:40:15 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [19:00] CPT.  |
| May 10, 2024 5:03:59 CST | Advisory issued due to an increase of the geomagnetic disturbance to a [K-8] until [19:00] CPT.  |
| May 10, 2024 6:44:51 CST | Advisory issued due to an increase of the geomagnetic disturbance to a [K-9] until [19:00] CPT.  |
| May 10, 2024 7:53:36 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [22:00] CPT.  |
| May 10, 2024 8:15:21 CST | Advisory issued due to an increase of the geomagnetic disturbance to a [K-9] until [22:00] CPT.  |
| May 10, 2024 10:37:11 CST | Advisory issued for a geomagnetic disturbance of [K-7] until 5/11/2024 [01:00] CPT.  |
| May 10, 2024 10:53:19 CST | Advisory issued due to an increase of the geomagnetic disturbance to a [K-8] until 5/11/2024 [01:00] CPT.  |
| May 11, 2024 2:02:26 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [04:00] CPT.  |
| May 11, 2024 2:20:15 CST | Advisory issued due to an increase of the geomagnetic disturbance to a [K-8] until 5/11/2024 [04:00] CPT.  |
| May 11, 2024 4:57:07 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [07:00] CPT.  |
| May 11, 2024 5:03:29 CST | Advisory issued for a geomagnetic disturbance of [K-8] until [04:00] CPT.  |
| May 11, 2024 5:05:04 CST | Advisory issued for a geomagnetic disturbance of [K-8] until [07:00] CPT.  |
| May 11, 2024 7:47:13 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [10:00] CPT.  |
| May 11, 2024 7:56:29 CST | Advisory issued for a geomagnetic disturbance of [K-8] until [10:00] CPT.  |
| May 11, 2024 10:58:46 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [13:00] CPT.  |
| May 11, 2024 12:04:51 CST | Advisory issued for a geomagnetic disturbance of [K-8] until [13:00] CPT.  |
| May 11, 2024 2:53:27 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [16:00] CPT.  |
| May 11, 2024 4:57:31 CST | Advisory issued for a geomagnetic disturbance of [K-7] until [19:00] CPT.  |
| May 11, 2024 11:47:51 CST | Advisory issued for a geomagnetic disturbance of [K-7] until 5/12/2024 [01:00] CPT.  |

## Watches

|  |  |
| --- | --- |
| **Date and Time** | **Message** |
| May 8, 2024 9:30 CST | ERCOT issued a Watch for a projected reserve capacity shortage with no market solution available for HE 20 – 21, which causes a risk for an EEA event. |

## Emergency Notices

|  |  |
| --- | --- |
| **Date and Time** | **Message** |
| May, 9, 2024 12:27 CST | Transmission Emergency Notice has been issued for the South Texas Import Interface. |

# Application Performance

## TSAT/VSAT Performance Issues

None

## Communication Issues

None.

## Market System Issues

None.

# Model Updates

The Downstream Production Change (DPC) process allows ERCOT to make changes in the one-line Network Operations Model without loading a completely new model. The purpose of this process is to allow for reliable grid operations as system conditions change between designated Network Operations Model database loads. The DPC process is limited in scope to just those items listed below, with equipment ratings updates being the most common. ERCOT has seen a rise in the use of the DPC process to make on-line updates to the Network Operations Model in recent years, instead of through the standard Network Operations Model Change Request process.

* Static Line ratings (Interim Update)
* Dynamic Line ratings (non-Interim Update)
* Autotransformer ratings (non-Interim Update)
* Breaker and Switch Normal status (Interim Update)
* Contingency Definitions (Interim Update)
* RAP and RAS changes or additions (Interim Update)
* Net Dependable and Reactive Capability (NDCRC) values (Interim Update)
* Impedance Updates (non-Interim)



|  |  |
| --- | --- |
| **Transmission Operator** | **Number of DPCs** |
| AEP TEXAS COMPANY (TDSP) | 2 |
| BRAZOS ELECTRIC POWER CO OP INC (TDSP) | 0 |
| BROWNSVILLE PUBLIC UTILITIES BOARD (TDSP) | 0 |
| BRYAN TEXAS UTILITIES (TDSP) | 0 |
| CENTERPOINT ENERGY HOUSTON ELECTRIC LLC (TDSP) | 3 |
| CITY OF AUSTIN DBA AUSTIN ENERGY (TDSP) | 0 |
| CITY OF COLLEGE STATION (TDSP) | 0 |
| CITY OF GARLAND (TDSP) | 0 |
| CPS ENERGY (TDSP) | 0 |
| DENTON MUNICIPAL ELECTRIC (TDSP) | 0 |
| ELECTRIC TRANSMISSION TEXAS LLC (TDSP) | 0 |
| ERCOT | 1 |
| LCRA TRANSMISSION SERVICES CORPORATION (TDSP) | 6 |
| LONE STAR TRANSMISSION LLC (TSP) | 0 |
| ONCOR ELECTRIC DELIVERY COMPANY LLC (TDSP) | 7 |
| PEDERNALES ELECTRIC CO OP INC (TDSP) | 0 |
| RAYBURN COUNTRY CO OP DBA RAYBURN ELECTRIC (TDSP) | 0 |
| SHARYLAND UTILITIES LP (TDSP) | 0 |
| SOUTH TEXAS ELECTRIC CO OP INC (TDSP) | 0 |
| TEXAS MUNICIPAL POWER AGENCY (TDSP) | 0 |
| TEXAS-NEW MEXICO POWER CO (TDSP) | 1 |
| WIND ENERGY TRANSMISSION TEXAS LLC (TSP) | 0 |

# Appendix A: Real-Time Constraints

The following is a complete list of constraints activated in SCED. Full contingency descriptions can be found in the Standard Contingencies List located on the MIS secure site at Grid 🡪 Generation 🡪 Reliability Unit Commitment.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year | Month of the Year | Contingency Name | Overloaded Element | From Station | To Station | Count of Days |
| 2024 | 5 | BASE CASE | NE\_LOB | n/a | n/a | 29 |
| 2024 | 5 | BASE CASE | ZAPSTR | n/a | n/a | 28 |
| 2024 | 5 | MHARNED5 | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 25 |
| 2024 | 5 | BASE CASE | PNHNDL | n/a | n/a | 24 |
| 2024 | 5 | BASE CASE | WESTEX | n/a | n/a | 24 |
| 2024 | 5 | MHARNED5 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 23 |
| 2024 | 5 | SBRAPIN8 | HAMILT\_MAVERI1\_1 | HAMILTON | MAVERICK | 21 |
| 2024 | 5 | DWLFMOS5 | 6520\_\_E | ODEHV | YARBR | 21 |
| 2024 | 5 | BASE CASE | NELRIO | n/a | n/a | 18 |
| 2024 | 5 | DCONLNG5 | 6471\_\_C | MGSES | NAVIG | 17 |
| 2024 | 5 | SBONNED5 | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 16 |
| 2024 | 5 | SNWEWES8 | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 16 |
| 2024 | 5 | DMTSCOS5 | 6437\_\_F | SCRCV | KNAPP | 15 |
| 2024 | 5 | DWLDSCO5 | 15060\_\_B | VEALMOOR | KOCHTAP | 15 |
| 2024 | 5 | DBIGKEN5 | HAMILT\_MAXWEL1\_1 | MAXWELL | HAMILTON | 15 |
| 2024 | 5 | SBWDDBM5 | LPLMK\_LPLNE\_1 | LPLMK | LPLNE | 15 |
| 2024 | 5 | SW\_GODE5 | 15060\_\_B | VEALMOOR | KOCHTAP | 15 |
| 2024 | 5 | DCAGCI58 | 255T279\_1 | PIPECR | MEDILA | 14 |
| 2024 | 5 | DSCOTKW5 | 15060\_\_B | VEALMOOR | KOCHTAP | 14 |
| 2024 | 5 | SRAYRI38 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 14 |
| 2024 | 5 | DMGSCON5 | 6471\_\_C | MGSES | NAVIG | 14 |
| 2024 | 5 | MPASTNE5 | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 13 |
| 2024 | 5 | DRNS\_TB5 | OB\_ZEN71\_A | ZEN | OB | 12 |
| 2024 | 5 | SVEAW\_L5 | 6217\_\_A | WLVSW | GAILS | 11 |
| 2024 | 5 | DBIGSCH5 | BAKRFLD\_CEDCAN\_1 | CEDACA | BAKESW | 11 |
| 2024 | 5 | DSALHUT5 | 1710\_\_C | BELCNTY | SALSW | 11 |
| 2024 | 5 | SKEYWLV8 | 15060\_\_B | VEALMOOR | KOCHTAP | 10 |
| 2024 | 5 | DBIGKEN5 | ORNT\_REDCRE1\_1 | REDCREEK | ORNT | 10 |
| 2024 | 5 | SKOCBUZ8 | 6217\_\_A | WLVSW | GAILS | 10 |
| 2024 | 5 | DFOWSMG5 | ASHERT\_CATARI1\_1 | ASHERTON | CATARINA | 10 |
| 2024 | 5 | DFOWSMG5 | ASHERT\_CATARI1\_1 | CATARINA | ASHERTON | 10 |
| 2024 | 5 | DBIGKEN5 | TREADW\_YELWJC1\_1 | TREADWEL | YELWJCKT | 10 |
| 2024 | 5 | SFORYEL8 | HEXT\_YELWJC1\_1 | YELWJCKT | HEXT | 9 |
| 2024 | 5 | DRNS\_TB5 | HK\_STL66\_A | HK | STL | 9 |
| 2024 | 5 | DFOWSMG5 | CATARI\_PILONC1\_1 | CATARINA | PILONCIL | 9 |
| 2024 | 5 | DBIGSCH5 | PALOUS\_WOLFCA1\_1 | PALOUSE | WOLFCAMP | 9 |
| 2024 | 5 | DFOWSMG5 | LARDVN\_LASCRU1\_1 | LARDVNTH | LASCRUCE | 9 |
| 2024 | 5 | MDTMBEL5 | PRY\_PRY1 | PRY | PRY | 9 |
| 2024 | 5 | SNATBEA8 | 6144\_\_A | BSPRW | STASW | 9 |
| 2024 | 5 | BASE CASE | E\_PASP | n/a | n/a | 9 |
| 2024 | 5 | DFOWSMG5 | CATARI\_PILONC1\_1 | PILONCIL | CATARINA | 9 |
| 2024 | 5 | SBENS\_M8 | BENTS\_FRTER\_1B\_1 | FRONTERA | S\_MISSIN | 9 |
| 2024 | 5 | SN\_SLON5 | N\_SHARPE\_XF1 | N\_SHARPE | N\_SHARPE | 8 |
| 2024 | 5 | SBAKCED5 | 6056\_\_A | LNGSW | CONSW | 8 |
| 2024 | 5 | SX3BRA8 | D5\_S1A\_1 | LEON\_CRK | S1 | 8 |
| 2024 | 5 | SX3BRA8 | D5\_S1A\_1 | S1 | LEON\_CRK | 8 |
| 2024 | 5 | MMDOOAS5 | MSNPET04\_A | PET | MSN | 8 |
| 2024 | 5 | DCONLNG5 | 15060\_\_B | VEALMOOR | KOCHTAP | 8 |
| 2024 | 5 | SMV\_RI28 | CP\_MVCNT\_1 | MV\_CNTRA | COFFPORT | 8 |
| 2024 | 5 | DCAGCO58 | 656T656\_1 | KENDAL | BERGHE | 8 |
| 2024 | 5 | DCONLNG5 | 6046\_\_A | MGSES | FLCNS | 7 |
| 2024 | 5 | DLEGOUT5 | 50\_\_A | BBSES | JEWET | 7 |
| 2024 | 5 | MLOBFOR5 | CATARI\_PILONC1\_1 | CATARINA | PILONCIL | 7 |
| 2024 | 5 | BASE CASE | I\_KALO | n/a | n/a | 7 |
| 2024 | 5 | SBTPBNT8 | MYRA\_VAL\_1 | MYRA | VALYVIEW | 7 |
| 2024 | 5 | SSHKCRI8 | 940\_\_A | ENWSW | TMPTN | 7 |
| 2024 | 5 | SBLSJAC8 | MYRA\_VAL\_1 | MYRA | VALYVIEW | 7 |
| 2024 | 5 | SDBMFID5 | LPLHY\_LPLDB\_1 | LPLDB | LPLHY | 7 |
| 2024 | 5 | SFORYEL8 | HEXT\_MASONS1\_1 | MASONSW | HEXT | 7 |
| 2024 | 5 | BASE CASE | E\_PATA | n/a | n/a | 7 |
| 2024 | 5 | SFORYEL8 | HEXT\_MASONS1\_1 | HEXT | MASONSW | 7 |
| 2024 | 5 | DSALTM58 | SEA\_AAT1 | SEA | SEA | 7 |
| 2024 | 5 | DSCOTKW5 | 6215\_\_A | BCKSW | CGRSW | 7 |
| 2024 | 5 | MLOBFOR5 | CATARI\_PILONC1\_1 | PILONCIL | CATARINA | 7 |
| 2024 | 5 | SDELLAR8 | LARDVN\_LASCRU1\_1 | LARDVNTH | LASCRUCE | 6 |
| 2024 | 5 | DCONLNG5 | 14040\_\_A | PCTSW | DEWTP | 6 |
| 2024 | 5 | DWPWFWP5 | STPWAP39\_1 | STP | WAP | 6 |
| 2024 | 5 | SMADSAP8 | MADDUX\_SAPOWE2\_1 | MADDUX | SAPOWER | 6 |
| 2024 | 5 | SDRISK28 | RKYROAD\_STILES\_1 | RCKYROAD | STILES | 6 |
| 2024 | 5 | MPRIRIO8 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 6 |
| 2024 | 5 | DCAGCO58 | 583T583\_1 | BANDER | MASOCR | 5 |
| 2024 | 5 | DRESMCM8 | RINCON\_WHITE\_2\_1 | WHITE\_PT | RINCON | 5 |
| 2024 | 5 | SCARFRI8 | ATSO\_SONR1\_1 | SONR | ATSO | 5 |
| 2024 | 5 | DKENCA58 | 255T279\_1 | PIPECR | MEDILA | 5 |
| 2024 | 5 | BASE CASE | EBONY\_GENTIE\_1 | EBNY\_ESS | EBNY\_ESS | 5 |
| 2024 | 5 | DSTEXP12 | BLESSI\_LOLITA1\_1 | LOLITA | BLESSING | 5 |
| 2024 | 5 | SZENOB5 | OB\_ZEN71\_A | ZEN | OB | 5 |
| 2024 | 5 | DBIGKEN5 | FORTMA\_YELWJC1\_1 | YELWJCKT | FORTMA | 5 |
| 2024 | 5 | DBIGKEN5 | MADDUX\_TREADW1\_1 | MADDUX | TREADWEL | 5 |
| 2024 | 5 | DGRSPKR5 | 6377\_\_A | BRTSW | ORANS | 5 |
| 2024 | 5 | DCAGCI58 | 656T656\_1 | KENDAL | BERGHE | 5 |
| 2024 | 5 | SHAYZO25 | 6T227\_1 | HAYSEN | ZORN | 5 |
| 2024 | 5 | DBIGKEN5 | FORTMA\_YELWJC1\_1 | FORTMA | YELWJCKT | 5 |
| 2024 | 5 | DCONLNG5 | 6095\_\_G | JPPOI | ALKLK | 5 |
| 2024 | 5 | DNAVOUT5 | 50\_\_A | BBSES | JEWET | 4 |
| 2024 | 5 | DBIGKEN5 | CARVER\_TINSLE1\_1 | CARVER | TINSLEY | 4 |
| 2024 | 5 | SBRAPIN8 | GANSO\_MAVERI1\_1 | GANSO | MAVERICK | 4 |
| 2024 | 5 | MLOBFOR5 | LARDVN\_LASCRU1\_1 | LARDVNTH | LASCRUCE | 4 |
| 2024 | 5 | SCOCBAR9 | ALPINE\_BRONCO1\_1 | BRONCO | ALPINE | 4 |
| 2024 | 5 | MLOBFOR5 | ASHERT\_CATARI1\_1 | CATARINA | ASHERTON | 4 |
| 2024 | 5 | SBOSWHT8 | LKW\_WHT\_1 | LKWHITNY | WHTNY | 4 |
| 2024 | 5 | SMCEESK8 | MKLT\_TRNT1\_1 | TRNT | MKLT | 4 |
| 2024 | 5 | BASE CASE | N\_TO\_H | n/a | n/a | 4 |
| 2024 | 5 | SCISPUT8 | 6635\_\_G | MRVLY | ESTLD | 4 |
| 2024 | 5 | SCOCBAR9 | ALPINE\_BRONCO1\_1 | ALPINE | BRONCO | 4 |
| 2024 | 5 | SNLAGAT8 | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 4 |
| 2024 | 5 | SELBBUL8 | 6470\_\_D | MCDLD | GLSCN | 4 |
| 2024 | 5 | MLOBFOR5 | ASHERT\_CATARI1\_1 | ASHERTON | CATARINA | 4 |
| 2024 | 5 | MRACNED8 | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 4 |
| 2024 | 5 | SBRAHAM8 | ESCOND\_GANSO1\_1 | ESCONDID | GANSO | 4 |
| 2024 | 5 | MPEAMOO8 | PEARSALL\_69\_4 | PEARSALL | PEARSALL | 4 |
| 2024 | 5 | SWHILON5 | BLESSI\_LOLITA1\_1 | LOLITA | BLESSING | 4 |
| 2024 | 5 | SBRAHAM8 | ESCOND\_GANSO1\_1 | GANSO | ESCONDID | 4 |
| 2024 | 5 | SBRAPIN8 | ESCOND\_GANSO1\_1 | ESCONDID | GANSO | 4 |
| 2024 | 5 | SBRAPIN8 | GANSO\_MAVERI1\_1 | MAVERICK | GANSO | 4 |
| 2024 | 5 | DRNS\_TB5 | STLTB\_66\_A | STL | TB | 4 |
| 2024 | 5 | XFTS89 | ALPINE\_BRONCO1\_1 | BRONCO | ALPINE | 4 |
| 2024 | 5 | SBRAPIN8 | ESCOND\_GANSO1\_1 | GANSO | ESCONDID | 4 |
| 2024 | 5 | SMCEESK8 | MKLT\_TRNT1\_1 | MKLT | TRNT | 4 |
| 2024 | 5 | SHCKRNK5 | 106\_\_A | HCKSW | ALLNC | 4 |
| 2024 | 5 | MDTPBEL5 | 1295\_\_A | TMPCR | TMPSW | 4 |
| 2024 | 5 | XFTS89 | ALPINE\_BRONCO1\_1 | ALPINE | BRONCO | 4 |
| 2024 | 5 | SN\_SAJO5 | LASPUL\_RAYMND1\_1 | LASPULGA | RAYMND2 | 4 |
| 2024 | 5 | DWLDSCO5 | 15060\_\_A | KOCHTAP | BUZSW | 4 |
| 2024 | 5 | SBRAUVA8 | BRACKE\_ESCOND1\_1 | BRACKETT | ESCONDID | 4 |
| 2024 | 5 | SW\_BLNG5 | 6471\_\_C | MGSES | NAVIG | 4 |
| 2024 | 5 | DCAGCO58 | 122T122\_1 | COMFOR | RAYBAR | 3 |
| 2024 | 5 | SMV\_PAR8 | RIOHND\_ERIOHND\_1 | MV\_RIOHO | RIOHONDO | 3 |
| 2024 | 5 | DNLALAR8 | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 3 |
| 2024 | 5 | MRACNED8 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 3 |
| 2024 | 5 | DNOECED5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 3 |
| 2024 | 5 | DELMSAN5 | NORMAN\_PETTUS1\_1 | NORMANNA | PETTUS | 3 |
| 2024 | 5 | SCONMGS5 | 6056\_\_A | LNGSW | CONSW | 3 |
| 2024 | 5 | SMGPBRN8 | 670\_\_A | BRNWD | BRNSO | 3 |
| 2024 | 5 | SZORMAR5 | 6T227\_1 | HAYSEN | ZORN | 3 |
| 2024 | 5 | DFRIILL8 | HAMILT\_MAXWEL1\_1 | MAXWELL | HAMILTON | 3 |
| 2024 | 5 | DSALKLN5 | KLNSW\_MR1H | KLNSW | KLNSW | 3 |
| 2024 | 5 | DCAGCI58 | 415T415\_1 | MILLER | HENLY | 3 |
| 2024 | 5 | DCMNCMN8 | 660\_\_B | MGPSW | ZEPHYR | 3 |
| 2024 | 5 | DCC3\_NED | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 3 |
| 2024 | 5 | MNEDPOM5 | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 3 |
| 2024 | 5 | SBRAHAM8 | GANSO\_MAVERI1\_1 | MAVERICK | GANSO | 3 |
| 2024 | 5 | DVICEDN8 | LOOP\_VICTORIA\_1 | VICTORIA | L\_463S | 3 |
| 2024 | 5 | DCONLNG5 | 6144\_\_A | BSPRW | STASW | 3 |
| 2024 | 5 | SELBBUL8 | 6470\_\_E | FRSTP | PCTSW | 3 |
| 2024 | 5 | SRICGRS8 | 6840\_\_B | NVKSW | ANARN | 3 |
| 2024 | 5 | DCAGTX\_8 | BIG\_FO\_PLEASA1\_1 | PLEASANT | BIG\_FOOT | 3 |
| 2024 | 5 | SILLFTL8 | CARVER\_TINSLE1\_1 | CARVER | TINSLEY | 3 |
| 2024 | 5 | SVEAW\_L5 | CEDRHI\_SILT1\_1 | CEDRHILL | SILT | 3 |
| 2024 | 5 | MDTPLCS5 | PRY\_PRY1 | PRY | PRY | 3 |
| 2024 | 5 | DELMSAN5 | NORMAN\_PETTUS1\_1 | PETTUS | NORMANNA | 3 |
| 2024 | 5 | DABPAB98 | 6635\_\_G | MRVLY | ESTLD | 3 |
| 2024 | 5 | DWHICOT5 | FARMLAND\_LONGD\_1 | FARMLAND | W\_LD\_345 | 3 |
| 2024 | 5 | D\_JN\_BI5 | JN\_AT1L | JN | JN | 3 |
| 2024 | 5 | SCOMCYP8 | 122T122\_1 | COMFOR | RAYBAR | 3 |
| 2024 | 5 | SBSPBUZ8 | 6135\_\_F | GUNSW | HPPOD | 3 |
| 2024 | 5 | SECRDMT8 | 6215\_\_A | BCKSW | CGRSW | 3 |
| 2024 | 5 | DKENCA58 | 656T656\_1 | KENDAL | BERGHE | 3 |
| 2024 | 5 | DCONLNG5 | CEDRHI\_SILT1\_1 | CEDRHILL | SILT | 3 |
| 2024 | 5 | SBRAHAM8 | GANSO\_MAVERI1\_1 | GANSO | MAVERICK | 3 |
| 2024 | 5 | SCARKEI8 | GRE\_GIBC\_1 | GIBCRK | GREENS\_P | 3 |
| 2024 | 5 | BASE CASE | I\_PASP | n/a | n/a | 3 |
| 2024 | 5 | SCRMSAR8 | ORNT\_REDCRE1\_1 | REDCREEK | ORNT | 3 |
| 2024 | 5 | DSALKLN5 | 630\_\_B | KLNSW | HHSTH | 3 |
| 2024 | 5 | DBUCRGP5 | 651\_\_B | CMNSW | CMNTP | 3 |
| 2024 | 5 | SVICCO28 | COLETO\_VICTOR2\_1 | COLETO | VICTORIA | 3 |
| 2024 | 5 | DWPWFWP5 | DOWOAS27\_A | DOW | OAS | 3 |
| 2024 | 5 | DNOESGT5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 3 |
| 2024 | 5 | DWO5\_EU8 | HY\_WZ\_24\_A | WZ | HY | 3 |
| 2024 | 5 | DALVWIS8 | MYRA\_VAL\_1 | MYRA | VALYVIEW | 3 |
| 2024 | 5 | DSNG\_TB5 | OB\_ZEN71\_A | ZEN | OB | 3 |
| 2024 | 5 | MANGWHP5 | BLESSI\_LOLITA1\_1 | LOLITA | BLESSING | 3 |
| 2024 | 5 | SCOMKEN8 | 115T123\_1 | KENDAL | KERRST | 2 |
| 2024 | 5 | SBELTMP8 | 1660\_\_C | HUTTO | RRNES | 2 |
| 2024 | 5 | SBIGTWI5 | 6056\_\_A | LNGSW | CONSW | 2 |
| 2024 | 5 | XFL1C58 | 6056\_\_A | LNGSW | CONSW | 2 |
| 2024 | 5 | DELMSAN5 | BEEVIL\_NORMAN1\_1 | NORMANNA | BEEVILLE | 2 |
| 2024 | 5 | SMCEABS8 | CAPELL\_MERK1\_1 | MERK | CAPELLA | 2 |
| 2024 | 5 | SMCEESK8 | CAPELL\_MERK1\_1 | CAPELLA | MERK | 2 |
| 2024 | 5 | SLOLFOR8 | GOHLKE\_JOSLIN1\_1 | JOSLIN | GOHLKE | 2 |
| 2024 | 5 | SSARBLU5 | ORNT\_REDCRE1\_1 | REDCREEK | ORNT | 2 |
| 2024 | 5 | DCDHTVW5 | 310\_\_A | LIGSW | NORSW | 2 |
| 2024 | 5 | DZORHAY5 | 415T415\_1 | MILLER | HENLY | 2 |
| 2024 | 5 | SSAMTH35 | 506\_\_A | SAMSW | FBRSW | 2 |
| 2024 | 5 | XFL2C58 | 6056\_\_A | LNGSW | CONSW | 2 |
| 2024 | 5 | DPUTAB98 | 6635\_\_G | MRVLY | ESTLD | 2 |
| 2024 | 5 | SENSENW8 | 940\_\_A | ENWSW | TMPTN | 2 |
| 2024 | 5 | MWHPLON5 | BLESSI\_LOLITA1\_1 | LOLITA | BLESSING | 2 |
| 2024 | 5 | DVICCO89 | COLETO\_VICTOR1\_1 | COLETO | VICTORIA | 2 |
| 2024 | 5 | DMCEBUT8 | ESKSW\_TRNT1\_1 | ESKSW | TRNT | 2 |
| 2024 | 5 | SMCEESK8 | ESKSW\_TRNT1\_1 | ESKSW | TRNT | 2 |
| 2024 | 5 | SBAKCED5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 2 |
| 2024 | 5 | SWILJA28 | JACKCNTY\_BLSRA\_1 | JACKCNTY | BLSRA | 2 |
| 2024 | 5 | DFOWSMG5 | LASCRU\_MILO1\_1 | LASCRUCE | MILO | 2 |
| 2024 | 5 | DVICEDN8 | RAY\_L\_46\_1 | L\_463S | RAYBURN | 2 |
| 2024 | 5 | DBIGKEN5 | REDCRE\_WEISS1\_1 | REDCREEK | WEISS | 2 |
| 2024 | 5 | SAIRNCA8 | REFUG\_VICTO\_1C\_1 | VICTORIA | OCONNOR | 2 |
| 2024 | 5 | DLONKOC8 | WHITE\_PT\_T3H | WHITE\_PT | WHITE\_PT | 2 |
| 2024 | 5 | DFERGRM8 | 33T218\_1 | WIRTZ | BURNET | 2 |
| 2024 | 5 | MHARNED5 | BURNS\_HEIDLBRG\_1 | MV\_BURNS | MV\_HBRG4 | 2 |
| 2024 | 5 | SMCEESK8 | CAPELL\_MERK1\_1 | MERK | CAPELLA | 2 |
| 2024 | 5 | SBAKCED5 | CEDRHI\_SILT1\_1 | CEDRHILL | SILT | 2 |
| 2024 | 5 | DFL\_MAR8 | CRBWAP09\_A | WAP | CRB | 2 |
| 2024 | 5 | DBRNSTR8 | D5\_S1A\_1 | S1 | LEON\_CRK | 2 |
| 2024 | 5 | SWIRJOH8 | FORTMA\_YELWJC1\_1 | FORTMA | YELWJCKT | 2 |
| 2024 | 5 | MXWHI89 | HECKER\_WHITE\_2\_1 | WHITE\_PT | HECKER | 2 |
| 2024 | 5 | DCONLNG5 | RKYROAD\_STILES\_1 | RCKYROAD | STILES | 2 |
| 2024 | 5 | SSTILOM8 | SCARBI\_STILLM1\_1 | STILLMAN | SCARBIDE | 2 |
| 2024 | 5 | SGILTRI8 | 211T147\_1 | GILLCR | MCNEIL\_ | 2 |
| 2024 | 5 | SWIRJOH8 | 55T207\_1 | GILLES | WOLFCR | 2 |
| 2024 | 5 | SMOUJOH8 | FORTMA\_YELWJC1\_1 | FORTMA | YELWJCKT | 2 |
| 2024 | 5 | SRAYRI28 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 2 |
| 2024 | 5 | SBRAHAM8 | HAMILT\_MAVERI1\_1 | HAMILTON | MAVERICK | 2 |
| 2024 | 5 | SRRDLCS5 | 235\_\_B | BALSW | JEWET | 2 |
| 2024 | 5 | DMNSALN5 | 381\_\_A | FMRVL | RYSSW | 2 |
| 2024 | 5 | SCMNCPS5 | 651\_\_B | CMNSW | CMNTP | 2 |
| 2024 | 5 | MSTPANG5 | BLESSI\_LOLITA1\_1 | LOLITA | BLESSING | 2 |
| 2024 | 5 | SLCSTH25 | 505\_\_B | FBRSW | THSES | 2 |
| 2024 | 5 | SSAMTH35 | 505\_\_B | FBRSW | THSES | 2 |
| 2024 | 5 | SMCEABS8 | CAPELL\_MERK1\_1 | CAPELLA | MERK | 2 |
| 2024 | 5 | SCOMHA38 | CARVER\_TINSLE1\_1 | CARVER | TINSLEY | 2 |
| 2024 | 5 | DCC1\_VIC | COLETO\_VICTOR2\_1 | COLETO | VICTORIA | 2 |
| 2024 | 5 | DMCEBUT8 | ESKSW\_TRNT1\_1 | TRNT | ESKSW | 2 |
| 2024 | 5 | SBIGV\_D8 | GREENL\_WEAVER1\_1 | WEAVERRD | GREENLK | 2 |
| 2024 | 5 | SRAYHAR8 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 2 |
| 2024 | 5 | DWISALV8 | MYRA\_VAL\_1 | MYRA | VALYVIEW | 2 |
| 2024 | 5 | UINGCTG1 | WHITE\_PT\_T3H | WHITE\_PT | WHITE\_PT | 2 |
| 2024 | 5 | DBAKCED5 | 6056\_\_A | LNGSW | CONSW | 2 |
| 2024 | 5 | DTWIDIV5 | 6056\_\_A | LNGSW | CONSW | 2 |
| 2024 | 5 | SSCLWF18 | 6840\_\_B | NVKSW | ANARN | 2 |
| 2024 | 5 | SNEDSTE5 | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 2 |
| 2024 | 5 | SMCEESK8 | ESKSW\_TRNT1\_1 | TRNT | ESKSW | 2 |
| 2024 | 5 | SL12LPL0 | LPLHY\_LPLDB\_1 | LPLDB | LPLHY | 2 |
| 2024 | 5 | SCHIPRC8 | MYRA\_VAL\_1 | MYRA | VALYVIEW | 2 |
| 2024 | 5 | DSALHUT5 | 1710\_\_A | SALDS | SONTERRA | 2 |
| 2024 | 5 | DHUTGEA8 | 1710\_\_C | BELCNTY | SALSW | 2 |
| 2024 | 5 | DCONLNG5 | 6471\_\_B | NAVIG | MCDLD | 2 |
| 2024 | 5 | SADKOB5 | BARCE\_73\_A | CE | BAR | 2 |
| 2024 | 5 | DELMSAN5 | BEEVIL\_NORMAN1\_1 | BEEVILLE | NORMANNA | 2 |
| 2024 | 5 | DZORHAY5 | BERGHE\_AT1H | BERGHE | BERGHE | 2 |
| 2024 | 5 | SMV\_RIO8 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 2 |
| 2024 | 5 | DSGTSCH5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 2 |
| 2024 | 5 | SBRABND8 | MILL\_NEW\_1 | MILLERRD | NEWMAN | 2 |
| 2024 | 5 | SPELWHI8 | WHITE\_PT\_T3H | WHITE\_PT | WHITE\_PT | 2 |
| 2024 | 5 | SL\_MSTE8 | MVHLN\_STWRT\_1A\_1 | STEWART | MVHILINE | 1 |
| 2024 | 5 | MWHPLON5 | NCARBI\_SEADRF1\_1 | NCARBIDE | SEADRFTC | 1 |
| 2024 | 5 | DHILMAR5 | PAR\_TRI\_CNTY\_1 | PARKWA | F5 | 1 |
| 2024 | 5 | MDTPBEL5 | PRY\_PRY1 | PRY | PRY | 1 |
| 2024 | 5 | MRESMCM8 | RINCON\_WHITE\_2\_1 | WHITE\_PT | RINCON | 1 |
| 2024 | 5 | DGABGEA8 | 353T353\_1 | LEANDE | SEWAJU | 1 |
| 2024 | 5 | SMOUJOH8 | 57T207\_1 | WOLFCR | KERRST | 1 |
| 2024 | 5 | MODETES5 | 6052\_\_C | QALSW | TESSW | 1 |
| 2024 | 5 | MSUNCOS8 | 6240\_\_C | SACRC | DPCRK | 1 |
| 2024 | 5 | SRICGRS8 | 6840\_\_A | ANARN | CRDSW | 1 |
| 2024 | 5 | SSCLWF18 | 6840\_\_A | ANARN | CRDSW | 1 |
| 2024 | 5 | SADKTHW5 | ADK\_AT1 | ADK | ADK | 1 |
| 2024 | 5 | DBSPSGM8 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 1 |
| 2024 | 5 | BASE CASE | CULBSN | n/a | n/a | 1 |
| 2024 | 5 | BASE CASE | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 1 |
| 2024 | 5 | SNE2NED8 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 1 |
| 2024 | 5 | DBLBYWF5 | JCKSTP18\_A | STP | JCK | 1 |
| 2024 | 5 | SMVHS\_M8 | L\_MILP\_STEWAR1\_1 | STEWART | L\_MILPAS | 1 |
| 2024 | 5 | SFORYEL8 | MASNPH\_MASN1\_1 | MASN | MASNPHT | 1 |
| 2024 | 5 | SBRAUVA8 | MAXWEL\_WHITIN1\_1 | MAXWELL | WHITING | 1 |
| 2024 | 5 | DLONWAR5 | NCARBI\_SEADRF1\_1 | NCARBIDE | SEADRFTC | 1 |
| 2024 | 5 | STHRSIG8 | NORMAN\_PETTUS1\_1 | PETTUS | NORMANNA | 1 |
| 2024 | 5 | SL\_4VIC8 | RAYBURN\_69\_2 | RAYBURN | RAYBURN | 1 |
| 2024 | 5 | DBLBYWF5 | STPWAP39\_1 | STP | WAP | 1 |
| 2024 | 5 | XLO2N58 | WHITE\_PT\_T3H | WHITE\_PT | WHITE\_PT | 1 |
| 2024 | 5 | SW\_LSCO5 | 15060\_\_B | VEALMOOR | KOCHTAP | 1 |
| 2024 | 5 | DWIRSTA8 | 231T323\_1 | PALEPE | MARSFO | 1 |
| 2024 | 5 | SWIRJOH8 | 28T110\_1 | CORONA | FAIRLA | 1 |
| 2024 | 5 | SFAICOR8 | 415T415\_1 | MILLER | HENLY | 1 |
| 2024 | 5 | DMTSCOS5 | 6240\_\_C | SACRC | DPCRK | 1 |
| 2024 | 5 | DODEMOS5 | 6500\_\_B | ODEHV | BTHOT | 1 |
| 2024 | 5 | SENWSHK8 | 940\_\_A | ENWSW | TMPTN | 1 |
| 2024 | 5 | XALM589 | ALMC\_69T1 | ALMC | ALMC | 1 |
| 2024 | 5 | DSWELNC5 | BLUF\_C\_MULBER1\_1 | BLUF\_CRK | MULBERRY | 1 |
| 2024 | 5 | BASE CASE | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 1 |
| 2024 | 5 | XNED258 | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 1 |
| 2024 | 5 | DFRIILL8 | CARVER\_TINSLE1\_1 | CARVER | TINSLEY | 1 |
| 2024 | 5 | SNEWMIL8 | COL\_BRAN\_1 | BRAND\_C | COLLEGE | 1 |
| 2024 | 5 | SILLFTL8 | CTHR\_TINSLE1\_1 | TINSLEY | CTHR | 1 |
| 2024 | 5 | DTIDERA5 | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 1 |
| 2024 | 5 | MCENRAP5 | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 1 |
| 2024 | 5 | SNLAGAT8 | DEL\_MA\_UNIVER1\_1 | DEL\_MAR | UNIVERSI | 1 |
| 2024 | 5 | DDILCOT8 | DILLEYSW\_69A1 | DILLEYSW | DILLEYSW | 1 |
| 2024 | 5 | MHARNED5 | LASPUL\_RAYMND1\_1 | LASPULGA | RAYMND2 | 1 |
| 2024 | 5 | SWIRJOH8 | MADDUX\_TREADW1\_1 | TREADWEL | MADDUX | 1 |
| 2024 | 5 | SODLBRA8 | MAXWEL\_WHITIN1\_1 | MAXWELL | WHITING | 1 |
| 2024 | 5 | DCOLFA59 | MELONC\_SEADRF1\_1 | SEADRFTC | MELONCRE | 1 |
| 2024 | 5 | DDUPLGE8 | MELONC\_SEADRF1\_1 | SEADRFTC | MELONCRE | 1 |
| 2024 | 5 | SGRILON5 | MELONC\_SEADRF1\_1 | SEADRFTC | MELONCRE | 1 |
| 2024 | 5 | DMELRIN8 | REFUG\_VICTO\_1C\_1 | VICTORIA | OCONNOR | 1 |
| 2024 | 5 | SBIGBIG8 | REFUG\_VICTO\_1C\_1 | VICTORIA | OCONNOR | 1 |
| 2024 | 5 | SSEAMEL8 | REFUG\_VICTO\_1C\_1 | VICTORIA | OCONNOR | 1 |
| 2024 | 5 | SOLSBOS8 | WNTSP\_FMR2 | WNTSP | WNTSP | 1 |
| 2024 | 5 | XING88 | WHITE\_PT\_T3L | WHITE\_PT | WHITE\_PT | 1 |
| 2024 | 5 | SVEAW\_L5 | 14030\_\_B | MGSES | MSRPD | 1 |
| 2024 | 5 | SFBRTHS5 | 280\_\_A | THSES | LCSES | 1 |
| 2024 | 5 | SBIGBIG8 | 2992\_1 | OCONNOR | GRETA | 1 |
| 2024 | 5 | DFERWIR8 | 34T267\_1 | SANDMO | CTECBU | 1 |
| 2024 | 5 | DTVWJON5 | 6017\_\_B | MBDSW | CMBSW | 1 |
| 2024 | 5 | SECRDMT8 | 6235\_\_A | CGRSW | SNYDR | 1 |
| 2024 | 5 | DMARCLE5 | 6T227\_1 | HAYSEN | ZORN | 1 |
| 2024 | 5 | DSALGA58 | BELCNTY\_XFMR | BELCNTY | BELCNTY | 1 |
| 2024 | 5 | SBROALP9 | BELD\_BRONCO1\_1 | BELD | BRONCO | 1 |
| 2024 | 5 | DDUPLGE8 | BIGTRE\_V\_DUPS1\_1 | V\_DUPSW | BIGTRE | 1 |
| 2024 | 5 | DLONWAR5 | BIGTRE\_V\_DUPS1\_1 | V\_DUPSW | BIGTRE | 1 |
| 2024 | 5 | XNED358 | BURNS\_RIOHONDO\_1 | RIOHONDO | MV\_BURNS | 1 |
| 2024 | 5 | SAIRNCA8 | GRETA\_REFUGI1\_1 | GRETA | REFUGIO | 1 |
| 2024 | 5 | SMVRLA\_8 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 1 |
| 2024 | 5 | MXWHI89 | HECKER\_WHITE\_1\_1 | WHITE\_PT | HECKER | 1 |
| 2024 | 5 | DDMTMHO5 | LPLHY\_LPLDB\_1 | LPLDB | LPLHY | 1 |
| 2024 | 5 | DELMSAN5 | MAGRUD\_VICTOR2\_1 | VICTORIA | MAGRUDER | 1 |
| 2024 | 5 | DFOWSMG5 | NLARSW\_PILONC1\_1 | PILONCIL | NLARSW | 1 |
| 2024 | 5 | MLOBFOR5 | NLARSW\_PILONC1\_1 | NLARSW | PILONCIL | 1 |
| 2024 | 5 | DBRNCMN8 | ORNT\_REDCRE1\_1 | REDCREEK | ORNT | 1 |
| 2024 | 5 | SCOLBAL8 | SANA\_FMR1 | SANA | SANA | 1 |
| 2024 | 5 | DBIGSCH5 | SANTAR\_WOLFCA1\_1 | WOLFCAMP | SANTARIT | 1 |
| 2024 | 5 | DSKYNAC8 | WEIDER\_RAND\_1 | WEIDER | W2 | 1 |
| 2024 | 5 | SW\_SW\_L5 | 15060\_\_B | VEALMOOR | KOCHTAP | 1 |
| 2024 | 5 | MDTPLCS5 | 1830\_\_F | WATCO | COTONBLT | 1 |
| 2024 | 5 | DBIGKEN5 | 271\_\_A | KLNSW | SALSW | 1 |
| 2024 | 5 | SRAYRI38 | 3044\_1 | S\_BENITO | W\_HARLIN | 1 |
| 2024 | 5 | DSCOTKW5 | 6095\_\_G | JPPOI | ALKLK | 1 |
| 2024 | 5 | DMGSCON5 | 6471\_\_B | NAVIG | MCDLD | 1 |
| 2024 | 5 | DCLEPA58 | ABNTHWST\_69T2 | ABNTHWST | ABNTHWST | 1 |
| 2024 | 5 | SGRICOL5 | BIGTRE\_V\_DUPS1\_1 | V\_DUPSW | BIGTRE | 1 |
| 2024 | 5 | DWAP\_JN5 | BI\_WAP50\_A | WAP | BI | 1 |
| 2024 | 5 | SGANVIC8 | BLESSI\_LOLITA1\_1 | LOLITA | BLESSING | 1 |
| 2024 | 5 | SBRABND8 | CNT\_MCCR\_1 | MCCREE | CENTRVIL | 1 |
| 2024 | 5 | SPAWCAL5 | COLETO\_VICTOR2\_1 | COLETO | VICTORIA | 1 |
| 2024 | 5 | DBRNCMN8 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 1 |
| 2024 | 5 | SLCRCRA8 | DRIVER\_HADACOL\_1 | DRIVER | HDCL\_CNR | 1 |
| 2024 | 5 | XNED258 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 1 |
| 2024 | 5 | SMCEABS8 | MKLT\_TRNT1\_1 | TRNT | MKLT | 1 |
| 2024 | 5 | DPHRAL58 | MSNPET04\_A | PET | MSN | 1 |
| 2024 | 5 | DDUPLGE8 | NCARBI\_SEADRF1\_1 | NCARBIDE | SEADRFTC | 1 |
| 2024 | 5 | XAB2M58 | ORNT\_REDCRE1\_1 | REDCREEK | ORNT | 1 |
| 2024 | 5 | MPEAMOO8 | POT\_PEAR\_1 | POTEETS | PEARSALL | 1 |
| 2024 | 5 | SL\_4RAY8 | RAYBURN\_69\_2 | RAYBURN | RAYBURN | 1 |
| 2024 | 5 | SBTPBNT8 | SPR\_VALY\_1 | VALYVIEW | SPR | 1 |
| 2024 | 5 | DWPWFCK5 | STPWAP39\_1 | STP | WAP | 1 |
| 2024 | 5 | DSALHUT5 | 1710\_\_E | SALSW | SALDS | 1 |
| 2024 | 5 | MDTMBEL5 | 1830\_\_F | WATCO | COTONBLT | 1 |
| 2024 | 5 | SRAYRI28 | 3044\_1 | S\_BENITO | W\_HARLIN | 1 |
| 2024 | 5 | DLYTZOR5 | 415T415\_1 | MILLER | HENLY | 1 |
| 2024 | 5 | DLWSRNK5 | 587\_\_A | ARGYL | LWSVH | 1 |
| 2024 | 5 | DENWSTE8 | 943\_\_B | ENWSW | SHKSW | 1 |
| 2024 | 5 | SBROALP9 | BELD\_BRONCO1\_1 | BRONCO | BELD | 1 |
| 2024 | 5 | DELMSAN5 | BLESSI\_LOLITA1\_1 | LOLITA | BLESSING | 1 |
| 2024 | 5 | SWHILON5 | COLETO\_VICTOR2\_1 | COLETO | VICTORIA | 1 |
| 2024 | 5 | XCMN58 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 1 |
| 2024 | 5 | DFERWIR8 | CORONA\_AT4 | CORONA | CORONA | 1 |
| 2024 | 5 | MHARRIO5 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 1 |
| 2024 | 5 | SWESPAN8 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 1 |
| 2024 | 5 | SILLFTL8 | HAMILT\_MAXWEL1\_1 | MAXWELL | HAMILTON | 1 |
| 2024 | 5 | BASE CASE | HMLTN | n/a | n/a | 1 |
| 2024 | 5 | SW\_LFAR5 | LPLHY\_LPLDB\_1 | LPLHY | LPLDB | 1 |
| 2024 | 5 | SBIGTWI5 | LVOK\_SANTIA1\_1 | SANTIAGO | LVOK | 1 |
| 2024 | 5 | DDMTBCK8 | 14030\_\_B | MGSES | MSRPD | 1 |
| 2024 | 5 | DSCOFAR5 | 15060\_\_B | VEALMOOR | KOCHTAP | 1 |
| 2024 | 5 | DSALHUT5 | 270\_\_A | KNBSW | TMPSW | 1 |
| 2024 | 5 | SFERSHE8 | 34T267\_1 | SANDMO | CTECBU | 1 |
| 2024 | 5 | DMNSCHS5 | 381\_\_A | FMRVL | RYSSW | 1 |
| 2024 | 5 | SANACN25 | 381\_\_A | FMRVL | RYSSW | 1 |
| 2024 | 5 | DLEGOUT5 | 40\_\_A | BBSES | JEWET | 1 |
| 2024 | 5 | DNAVOUT5 | 40\_\_A | BBSES | JEWET | 1 |
| 2024 | 5 | SOAKNIC8 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 1 |
| 2024 | 5 | SNEDSTE5 | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 1 |
| 2024 | 5 | SILLFTL8 | DOLAN\_WHITIN1\_1 | DOLAN | WHITING | 1 |
| 2024 | 5 | MNEDPOM5 | FREER\_LOBO1\_1 | LOBO | FREER | 1 |
| 2024 | 5 | SBIGV\_D8 | GREENL\_NCARBI1\_1 | GREENLK | NCARBIDE | 1 |
| 2024 | 5 | SLP4LPL0 | LPLHY\_LPLDB\_1 | LPLDB | LPLHY | 1 |
| 2024 | 5 | BASE CASE | L\_MILP\_STEWAR1\_1 | STEWART | L\_MILPAS | 1 |
| 2024 | 5 | DWO5\_EU8 | MIDPK\_90\_A | MID | PK | 1 |
| 2024 | 5 | XWH158 | NCARBI\_SEADRF1\_1 | NCARBIDE | SEADRFTC | 1 |
| 2024 | 5 | SDELLAR8 | NLARSW\_UNITEC1\_1 | NLARSW | UNITEC | 1 |
| 2024 | 5 | DBWN\_AM5 | ORNT\_REDCRE1\_1 | REDCREEK | ORNT | 1 |
| 2024 | 5 | DBIGKEN5 | ORNT\_TENNYS1\_1 | ORNT | TENNYSON | 1 |
| 2024 | 5 | MPEAMOO8 | POT\_PEAR\_1 | PEARSALL | POTEETS | 1 |
| 2024 | 5 | SBIGV\_D8 | REFUG\_VICTO\_1C\_1 | VICTORIA | OCONNOR | 1 |
| 2024 | 5 | DBWNAMO5 | SAPOWE\_SAST1\_1 | SAPOWER | SAST | 1 |
| 2024 | 5 | DLONKOC8 | WHITE\_PT\_T3L | WHITE\_PT | WHITE\_PT | 1 |
| 2024 | 5 | DRAFTX\_8 | 255T279\_1 | PIPECR | MEDILA | 1 |
| 2024 | 5 | SAIRNCA8 | 2992\_1 | OCONNOR | GRETA | 1 |
| 2024 | 5 | SRAYHAR8 | 3044\_1 | S\_BENITO | W\_HARLIN | 1 |
| 2024 | 5 | DTHSFBR5 | 35055\_\_A | SAMSW | VENSW | 1 |
| 2024 | 5 | SMOUJOH8 | 55T207\_1 | GILLES | WOLFCR | 1 |
| 2024 | 5 | SVEAW\_L5 | 6135\_\_D | CGRSW | GVLTP | 1 |
| 2024 | 5 | DFOWSMG5 | AEPCHKCN\_SGMOR\_1 | CHOKCNYN | SIGMOR | 1 |
| 2024 | 5 | DCOLFA59 | BIGTRE\_V\_DUPS1\_1 | V\_DUPSW | BIGTRE | 1 |
| 2024 | 5 | DBURAMD8 | CKT\_979\_1 | MAGPLANT | NORTHLAN | 1 |
| 2024 | 5 | XPAW58 | COLETO\_VICTOR2\_1 | COLETO | VICTORIA | 1 |
| 2024 | 5 | SNICORN8 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 1 |
| 2024 | 5 | BASE CASE | GOOD\_DAN\_1 | GOODLAND | DANSBY | 1 |
| 2024 | 5 | DEASGRE8 | GOOD\_DAN\_1 | GOODLAND | DANSBY | 1 |
| 2024 | 5 | XVI184 | GREENL\_WEAVER1\_1 | WEAVERRD | GREENLK | 1 |
| 2024 | 5 | MHARRIO5 | HAINE\_\_OLEAND1\_1 | HAINE\_DR | OLEANDER | 1 |
| 2024 | 5 | MPRIRIO8 | HAINE\_\_OLEAND1\_1 | HAINE\_DR | OLEANDER | 1 |
| 2024 | 5 | XLA2\_89 | LA\_PALMA\_69A1 | LA\_PALMA | LA\_PALMA | 1 |
| 2024 | 5 | XCMN58 | ORNT\_REDCRE1\_1 | REDCREEK | ORNT | 1 |
| 2024 | 5 | DBWN\_AM5 | ORNT\_TENNYS1\_1 | ORNT | TENNYSON | 1 |
| 2024 | 5 | BASE CASE | VALEXP | n/a | n/a | 1 |
| 2024 | 5 | XLO2N58 | WHITE\_PT\_T3L | WHITE\_PT | WHITE\_PT | 1 |
| 2024 | 5 | DTOKTNP5 | 1225\_\_A | LCSES | RIESW | 1 |
| 2024 | 5 | SLPRGDL8 | 1485\_\_A | LPRSW | TRSES | 1 |
| 2024 | 5 | DTMPBE58 | 1680\_\_A | RRWES | GEORSO | 1 |
| 2024 | 5 | SBIGV\_D8 | 2992\_1 | OCONNOR | GRETA | 1 |
| 2024 | 5 | SFERSHE8 | 33T218\_1 | WIRTZ | BURNET | 1 |
| 2024 | 5 | DSALHUT5 | 421\_\_A | BCESW | SNDSW | 1 |
| 2024 | 5 | DCDHTVW5 | 6200\_\_C | PRKRW | PLYAM | 1 |
| 2024 | 5 | DWLFMOS5 | 6485\_\_B | RLKSW | PWPOD | 1 |
| 2024 | 5 | DCENTIE5 | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 1 |
| 2024 | 5 | SGOHJOS8 | FORMOS\_LOLITA1\_1 | FORMOSA | LOLITA | 1 |
| 2024 | 5 | DFERWIR8 | FORTMA\_YELWJC1\_1 | FORTMA | YELWJCKT | 1 |
| 2024 | 5 | SBRYGIB8 | GRE\_GIBC\_1 | GIBCRK | GREENS\_P | 1 |
| 2024 | 5 | SNEDSTE5 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 1 |
| 2024 | 5 | XNED358 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 1 |
| 2024 | 5 | MHARNED5 | HAINE\_\_OLEAND1\_1 | HAINE\_DR | OLEANDER | 1 |
| 2024 | 5 | SBIJN5 | JN\_AT1L | JN | JN | 1 |
| 2024 | 5 | MLOBFOR5 | LASCRU\_MILO1\_1 | LASCRUCE | MILO | 1 |
| 2024 | 5 | SLOLBLE8 | LOOP\_VICTORIA\_1 | VICTORIA | L\_463S | 1 |
| 2024 | 5 | DBIGKEN5 | MAXWEL\_WHITIN1\_1 | MAXWELL | WHITING | 1 |

1. Current Wind Generation Record: 27,548 MW on 01/07/2024 at 18:42 | Current Wind Penetration Record: 69.15% on 04/10/2022 at 01:43

 Current Solar Generation Record: 18,881 MW on 03/28/2024 at 11:24 | Current Solar Penetration Record: 42.98% 03/28/2024 at 11:27 [↑](#footnote-ref-2)
2. All DC Tie Curtailments are posted publicly on the ERCOT Market Information System. See that posting for additional details for the event(s) in question. [↑](#footnote-ref-3)
3. See DC Tie Operating Procedure (<http://www.ercot.com/mktrules/guides/procedures>) for more details. [↑](#footnote-ref-4)