

December 2024 ERCOT Monthly Operations Report

Reliability and Operations Subcommittee Meeting

February 6, 2025

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# Report Highlights

* The unofficial ERCOT peak demand was 60,235 MW for the month of December on 12/11/2024 HE 08:00; this is 3,259 MW higher than the December 2023 peak demand of 56,976 MW on 12/11/2023 HE 08:00.
* There was 1 frequency event.
* There were no ERCOT Contingency Reserve Service (ECRS) events.
* There were no Responsive Reserve Service (RRS) events.
* There was 1 DC Tie Curtailment.
* There were 30 HRUC commitments.
* There were no OCNs issued.
* There was 1 Advisory issued due to ERCOT’s Voltage Security Assessment Tool unavailability.
* The following GTCs saw congestion in December:

|  |  |
| --- | --- |
| GTC | Days Congestion |
| Panhandle GTC | 23 |
| Hamilton | 23 |
| Nelson Sharpe to Rio Hondo | 16 |
| West Texas Export | 16 |
| Zapata Starr | 16 |
| North Edinburg to Lobo | 11 |
| South Texas Export (E\_PATA) | 9 |
| South Texas Export (E\_PASP) | 7 |
| South Texas Import (I\_KALO) | 4 |
| Valley Export | 3 |
| North to Houston | 1 |
| Wharton County | 1 |
| McCamey | 1 |
| East Texas | 1 |

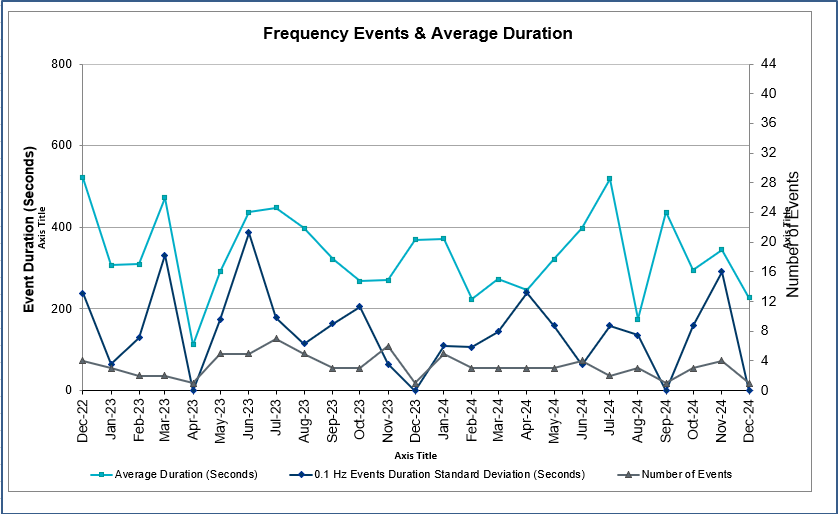
# Frequency Control

## Frequency Events

The ERCOT Interconnection experienced 1 frequency events, which resulted from unit tripping. The duration of this events was 3 minutes and 48 seconds.

A summary of the frequency event is provided below. The reported frequency event meets 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 event listed below, the ERCOT system met these standards and transitioned well after the 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)** |
| 12/1/2024 05:18:48 | 0.084 | 59.930 | 00:03:48 | 0.63 | 13% | 608 | 43,714 | 12% | 247,929 |



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

## ERCOT Contingency Reserve Events

There were no events 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** |
| N/A | N/A | N/A | N/A | N/A |

## Responsive Reserve Events

There were no 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 were no events where Load Resources that are controlled by Under-Frequency Relays were deployed for an Emergency Condition.

# 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.

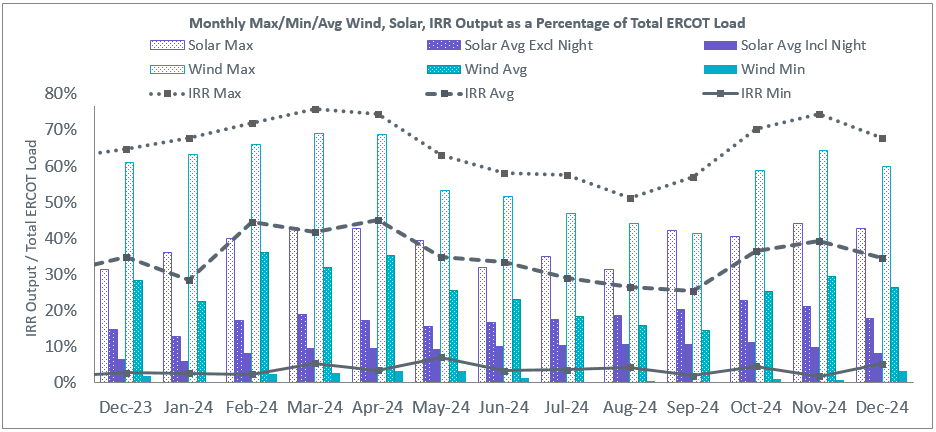
There were no DRUC commitments.

There were 30 HRUC commitments.

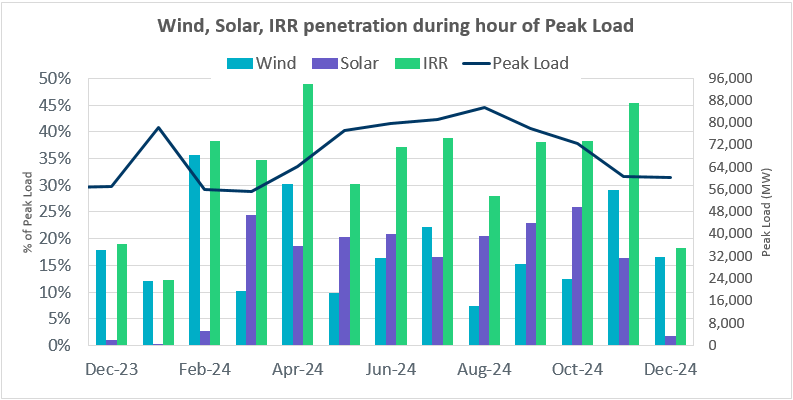
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Resource Location** | **# of Resources** | **Operating Day** | **Total # of Hours Committed** | **Total MWhs** | **Reason for Commitment** |
| NORTH\_CENTRAL | 1 | December 1, 2024 | 4 | 1,580 | E\_PASP |
| EAST, NORTH\_CENTRAL | 5 | December 2, 2024 | 38 | 8,348 | E\_PASP, E\_PATA |
| EAST, NORTH\_CENTRAL | 3 | December 3, 2024 | 12 | 4,836 | E\_PASP |
| SOUTHERN | 1 | December 8, 2024 | 21 | 5,250 | I\_PASP, Valley Import |
| SOUTHERN | 1 | December 9, 2024 | 39 | 3,250 | I\_PASP |
| FAR\_WEST, SOUTHERN | 3 | December 11, 2024 | 7 | 2,194 | DCONLNG5, XNED258 |
| FAR\_WEST, SOUTHERN | 2 | December 12, 2024 | 24 | 10,051 | DCONLNG5, Valley Congestion, XNED258 |
| FAR\_WEST, SOUTHERN | 2 | December 13, 2024 | 33 | 8,959 | DCONLNG5, Valley Congestion |
| SOUTHERN | 1 | December 14, 2024 | 1 | 250 | Valley Congestion |
| SOUTHERN | 1 | December 15, 2024 | 24 | 6,000 | Valley Congestion |
| NORTH\_CENTRAL, SOUTHERN | 3 | December 16, 2024 | 22 | 7,172 | E\_PASP, Valley Congestion |
| NORTH\_CENTRAL, SOUTH\_CENTRAL, SOUTHERN | 4 | December 18, 2024 | 24 | 7,934 | E\_PASP, Valley Congestion |
| SOUTHERN | 1 | December 19, 2024 | 4 | 1,000 | Valley Congestion |
| EAST, NORTH\_CENTRAL | 2 | December 26, 2024 | 8 | 4,100 | VALEXP |

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

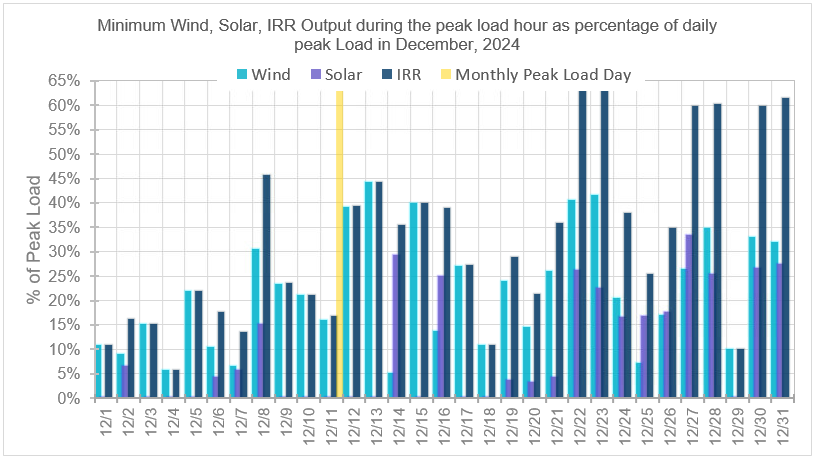
The graph below shows the maximum, minimum and average aggregate solar, wind and IRR output as a percentage of total ERCOT load when evaluated as 10-minute averaged intervals, over the past 13 months. Current wind and solar generation and penetration records are listed in the footnote below[[1]](#footnote-2). Maximum IRR penetration for December 2024 was 67.86% on 12/22/2024 interval ending 11:40 and minimum IRR penetration for the month was 5.24% on 12/04/2024 interval ending 17:30.



During the hour of peak load for the month, hourly integrated wind generation was 9,960 MW and solar generation was 1,105 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 ramps over 5-minute, 10-minute, 15-minute, 30-minute, and 60-minute intervals in December 2024 were 1,755 MW, 3,250 MW, 4,678 MW, 9,143 MW, and 15,363 MW, respectively. A comparison with historical values is provided in the table below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Month and Year** | **5 min** | **10 min** | **15 min** | **30 min** | **60 min** |
| December 2014 | 1,014 MW | 1,689 MW | 2,112 MW | 3,034 MW | 5,296 MW |
| December 2015 | 962 MW | 1,637 MW | 1,995 MW | 3,241 MW | 5,516 MW |
| December 2016 | 857 MW | 1,404 MW | 1,827 MW | 3,166 MW | 5,866 MW |
| December 2017 | 964 MW | 1,581 MW | 2,078 MW | 3,393 MW | 5,708 MW |
| December 2018 | 923 MW | 1,553 MW | 2,148 MW | 4,109 MW | 7,218 MW |
| December 2019 | 1,014 MW | 1,689 MW | 2,112 MW | 3,034 MW | 5,296 MW |
| December 2020 | 1,083 MW | 1,780 MW | 2,479 MW | 5,882 MW | 10,364 MW |
| December 2021 | 933 MW | 1,518 MW | 2,154 MW | 4,103 MW | 7,128 MW |
| December 2022 | 1,138 MW | 1,981 MW | 2,841 MW | 5,459 MW | 10,490 MW |
| December 2023 | 1,512 MW | 2,841 MW | 3,903 MW | 6,762 MW | 13,703 MW |
| December 2024 | 1,755 MW | 3,250 MW | 4,678 MW | 9,143 MW | 15,363 MW |
| All months in 2014-2024 | 2,789 MW | 3,250 MW | 4,678 MW | 9,143 MW | 16,522 MW |
| 10/13/2023 | 12/30/2024 | 12/30/2024 | 12/30/2024 | 1/12/2024 |
| (IE 12:01) | (IE 16:56) | (IE 16:59) | (IE 16:59) | (IE 17:47) |

# 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** |
|
| DCONLNG5 | 14040\_\_I | CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Polecat Creek Switch - Wrage Ranch Pod 138kV | 18 | $29,464,343.30 | Oncor\_FW\_45640\_Spraberry - Polecat Creek 138 kV Line (23RPG009, MOD 45640) |
| DBAKCED5 | HARGRO\_TWINBU1\_1 | BAKESW-CEDACA 345kV & BAKESW-CEDACA 345kV | Hargrove - Twin Buttes 138kV | 15 | $17,145,403.50 |  |
| BASE CASE | WESTEX | Basecase | WESTEX GTC | 11 | $9,369,154.72 |  |
| DODEMOS5 | 6520\_\_E | ODEHV-MOSSW 345&ODEHV-WLFSW 345\_DBLCKT | Odessa Ehv Switch - Yarbrough Sub 138kV | 20 | $8,463,047.23 |  |
| DBIGKEN5 | FORTMA\_YELWJC1\_1 | Bighil-Kendal 345kV | Yellow Jacket - Fort Mason 138kV | 26 | $7,957,673.21 |  |
| DBAKCED5 | 6056\_\_A | BAKESW-CEDACA 345kV & BAKESW-CEDACA 345kV | Longshore Switch - Consavvy Switch 345kV | 11 | $7,504,053.14 | Longshore – Consavvy 345 kV Double-Circuit Line Rebuild (23RPG029, MOD 81268) |
| BASE CASE | PNHNDL | Basecase | PNHNDL GTC | 19 | $6,642,312.18 |  |
| DWAP\_OB5 | EU\_SF\_09\_A | TWR (345) OB-WAP98 & OB-WAP99 | Eureka - San Felipe 138kV | 13 | $4,753,362.12 |  |
| MMOSME35 | 6520\_\_E | MAN\_DBL\_MOSSW-METSW+ODEHV-WLFSW\_345KV | Odessa Ehv Switch - Yarbrough Sub 138kV | 5 | $4,680,850.18 |  |
| SW\_LVLT5 | 15060\_\_B | wett\_long\_draw to Volta LIN 1 | Koch Tap - Vealmoor 138kV | 10 | $4,411,898.35 |  |
| SBWDDBM5 | LPLNW\_LPLMD\_1 | BLACKWATER DRAW SWITCH to DOUBLE MOUNTAIN SWITCH LIN 1 | Northwest Substation - Mcdonald Substation 115kV | 3 | $3,299,695.34 |  |
| MLOBFOR5 | BRUNI\_69\_1 | manual double Lobo to fowlerton 1&2 345 | Bruni Sub 138kV | 12 | $2,761,031.64 |  |
| DBLBYWF5 | JCKSTP18\_A | TWR (345) BLU-BLY72 & HLJ-WLF64 | Jones Creek - South Texas Project 345kV | 4 | $1,724,711.33 |  |
| DKG\_NB\_5 | HL\_PSA08\_A | TWR(345) JOR-KG97 & JOR-NB99 | Highlands - Power Systems Arco Cogen 138kV | 4 | $1,649,687.73 |  |
| MHARNED5 | HAINE\_\_LA\_PAL1\_1 | Manual dbl ckt for NEDIN-BONILLA 345kV & RIOH-PRIM138kV | Haine Drive - La Palma 138kV | 12 | $1,524,001.79 |  |
| SBGLTWI8 | LAKENA\_SAMATH1\_1 | TWIN BUTTES to HARGROVE LIN 1 | Lake Nasworthy - San Angelo Mathis Field 69kV | 5 | $1,510,858.92 |  |
| DNOECED5 | HARGRO\_TWINBU1\_1 | NOELKE - CEDAR CANYON & NOELKE- CEDAR CANYON 2 | Hargrove - Twin Buttes 138kV | 8 | $1,345,585.57 |  |
| SSGVTRC5 | 175\_\_A | Tri Corner to SEAGOVILLE SWITCH LIN \_B | Forney Switch - Tri Corner 345kV | 3 | $1,177,242.43 |  |
| MANSSTP5 | BLESSING\_1382 | Manual STP to HLJ & Anstrom345 KV DOUBLE | Blessing 345kV | 9 | $1,153,405.41 |  |
| SBWDDBM5 | LPLMK\_LPLNE\_1 | BLACKWATER DRAW SWITCH to DOUBLE MOUNTAIN SWITCH LIN 1 | Mackenzie Substation - Northeast Substation 115kV | 5 | $995,294.65 |  |
| DBAKCED5 | STCO\_STER1\_1 | BAKESW-CEDACA 345kV & BAKESW-CEDACA 345kV | Sterling City - Sterling County 69kV | 5 | $981,793.67 |  |
| BASE CASE | E\_PASP | Basecase | E\_PASP GTC | 3 | $711,587.58 |  |
| DSGTSCH5 | HARGRO\_TWINBU1\_1 | SINGLE TREE- SCHNEEMAN DRAW & SINGLE TREE- SCHNEEMAN DRAW 2 | Hargrove - Twin Buttes 138kV | 6 | $678,026.09 |  |
| BASE CASE | NELRIO | Basecase | NELRIO GTC | 11 | $632,225.51 | The Lower Rio Grande Valley (LRGV) System Enhancement Project (21RPG017) will cause there to be no stability constraint for NelsonSharpe\_RioHondoGTC under normal conditions. |
| BASE CASE | E\_PATA | Basecase | E\_PATA GTC | 5 | $615,629.22 |  |
| SVLSANA5 | 389\_\_A | ANNA SWITCH to VALLEY SES LIN \_A | Monticello Ses - Woodard Switch 345kV | 4 | $533,364.34 |  |
| SBRAHAM8 | GANSO\_MAVERI1\_1 | BRACKETTVILLE to HAMILTON ROAD LIN 1 | Ganso - Maverick 138kV | 6 | $424,754.04 | Ganso to Hamilton Road: Rebuild 138 kV line (22RPG044, MOD 55626) |
| BASE CASE | HHGTOM\_1 | Basecase | Omega - Horse Hollow Generation Tie 345kV | 3 | $421,480.63 |  |
| DELMTEX5 | BLESSING\_1382 | Elmcreek-STP 345kV | Blessing 345kV | 3 | $403,858.21 |  |
| SCOLBAL8 | COLJ\_SANA1\_1 | COLEMAN LAKE IVIE TAP to COLEMAN LAKE IVIE TAP LIN 1 | Coleman Junctin - Santa Anna 69kV | 3 | $345,388.08 |  |
| DSLKSOL5 | 138\_FLT\_FXT\_1 | Sand Lake - Solstice line 1 and 2 | Foxtail Tnp - Flat Top Tnp 138kV | 8 | $308,335.77 |  |
| SCMNCPS5 | 651\_\_B | COMANCHE SWITCH (Oncor) to COMANCHE PEAK SES LIN \_A | Comanche Tap - Comanche Switch (Oncor) 138kV | 7 | $294,076.55 |  |
| SOAKNIC8 | CONCHO\_VRBS1\_1 | NICOLE to NICOLE LIN 1 | San Angelo Concho - Veribest 69kV | 3 | $293,614.10 |  |
| BASE CASE | ZAPSTR | Basecase | ZAPSTR GTC | 12 | $280,056.21 |  |
| SOWLBIG8 | BISON\_STRS1\_1 | Owls to BIG LAKE LIN 1 | Bison - Strauss Rea 69kV | 11 | $265,417.62 |  |
| BASE CASE | NE\_LOB | Basecase | NE\_LOB GTC | 7 | $252,791.60 | The Lower Rio Grande Valley (LRGV) System Enhancement Project (21RPG017) will improve the NorthEd\_LoboGTC to support up to 80% of total wind and solar generation capacity in the LRGV area. |
| DBIGSCH5 | HARGRO\_TWINBU1\_1 | Big Hill - Schneeman Draw & Big Hill - Schneeman Draw 2 | Hargrove - Twin Buttes 138kV | 3 | $244,677.62 |  |
| DBIGKEN5 | FORTMA\_YELWJC1\_1 | Bighil-Kendal 345kV | Yellow Jacket - Fort Mason 138kV | 26 | $240,164.40 |  |
| SKLELOY8 | LOYOLA\_69\_1 | KLEBERG AEP to KLEBERG AEP LIN 1 | Loyola Sub 138kV | 6 | $229,864.92 | STEC\_76816\_upgradeLoyolaAuto (76816) |
| SCOLBAL8 | SANA\_FMR1 | COLEMAN LAKE IVIE TAP to COLEMAN LAKE IVIE TAP LIN 1 | Santa Anna 138kV | 5 | $214,430.53 |  |
| SBRAPIN8 | GANSO\_MAVERI1\_1 | BRACKETTVILLE to BRACKETTVILLE LIN 1 | Ganso - Maverick 138kV | 6 | $201,798.39 | Ganso to Hamilton Road: Rebuild 138 kV line (22RPG044, MOD 55626) |
| SJUNYEL9 | HEXT\_YELWJC1\_1 | MENARD PHILLIPS TAP to MENARD PHILLIPS TAP LIN 1 | Yellow Jacket - Hext Lcra 69kV | 8 | $180,458.34 |  |
| DBWN\_AM5 | CONCHO\_VRBS1\_1 | Bwnsw-Bowwoo&Amosct 345kV | San Angelo Concho - Veribest 69kV | 7 | $178,266.16 |  |
| SN\_SAJO5 | LOYOLA\_69\_1 | AJO to AJO LIN 1 | Loyola Sub 138kV | 4 | $170,220.45 | STEC\_76816\_upgradeLoyolaAuto (76816) |
| DBLHJWF5 | JCKSTP18\_A | TWR (345) BLU-HLJ72 & HLJ-WLF64 | Jones Creek - South Texas Project 345kV | 3 | $160,335.34 |  |
| DNOESGT5 | HARGRO\_TWINBU1\_1 | NOELKE - SINGLE TREE & NOELKE- SINGLE TREE 2 | Hargrove - Twin Buttes 138kV | 4 | $151,880.45 |  |
| XBAL89 | CONCHO\_VRBS1\_1 | BALLINGER TRX FMR1 138/69 | San Angelo Concho - Veribest 69kV | 3 | $147,861.57 | AEP\_TNC\_Ballinger-ConchoRebuild (55421) |
| SMDOPHR5 | G138\_10B\_1 | MEADOW to PH ROBINSON LIN A | Magnolia Tnp - Seminole Tnp 138kV | 4 | $141,356.05 |  |
| DBRNCMN8 | CONCHO\_VRBS1\_1 | BRNSW-BRNSW \_and\_ CMNSW 138kV | San Angelo Concho - Veribest 69kV | 3 | $128,940.05 |  |
| MLOBFOR5 | ASHERT\_CATARI1\_1 | manual double Lobo to fowlerton 1&2 345 | Asherton - Catarina 138kV | 5 | $127,774.05 |  |
| DBIGKEN5 | HAMILT\_MAXWEL1\_1 | Bighil-Kendal 345kV | Hamilton Road - Maxwell 138kV | 10 | $125,366.32 | Hamilton Road to Maxwell: Rebuild 138 kV Line (61396) |
| MHARNED5 | SCARBI\_STILLM1\_1 | Manual dbl ckt for NEDIN-BONILLA 345kV & RIOH-PRIM138kV | South Carbide - Stillman 138kV | 3 | $120,263.12 |  |
| DYELME89 | HEXT\_YELWJC1\_1 | YELWJCKT - TREADWEL (138) & MENPHTAP (69) | Yellow Jacket - Hext Lcra 69kV | 8 | $119,846.63 |  |
| BASE CASE | HMLTN | Basecase | HMLTN GTC | 23 | $100,356.09 |  |
| SPEBTRU8 | 940\_\_A | GAMMA to GAMMA LIN \_D | Ennis West Switch - Templeton 138kV | 3 | $78,407.60 |  |
| DNORWLV5 | 3160\_\_A | EVLSW-NORSW\_138kV \_and\_ WLVEE-NORSW\_345kV | Cedar Crest Switch - Oak Cliff South 138kV | 3 | $73,739.31 |  |
| MEXCHC45 | 595\_\_A | MANUAL EXCSW TO HCKSW 345 KV DBLCKT\_1 | Bennett Road Switch - Decatur (Oncor) 138kV | 3 | $53,360.83 |  |
| SBRAPIN8 | HAMILT\_MAVERI1\_1 | BRACKETTVILLE to BRACKETTVILLE LIN 1 | Hamilton Road - Maverick 138kV | 7 | $52,303.58 | Ganso to Hamilton Road: Rebuild 138 kV line (22RPG044, MOD 55626) |
| DHUGWR\_8 | ARROZ\_EL\_CAM1\_1 | TWR (138) DYN-WR60 & HUG-WR60 | Arroz - El Campo 138kV | 6 | $50,952.36 |  |
| SMADSAP8 | MADDUX\_SAPOWE2\_1 | MADDUX to SAN ANGELO POWER STATION LIN 1 | Maddux - San Angelo Power Station 138kV | 5 | $50,762.40 |  |
| SEBHUG8 | ARROZ\_EL\_CAM1\_1 | EAST BERNARD to EAST BERNARD LIN A | Arroz - El Campo 138kV | 4 | $44,835.26 |  |
| SN\_SAJO5 | LASPUL\_RAYMND1\_1 | AJO to AJO LIN 1 | Las Pulgas - Raymondville 2 138kV | 5 | $24,924.40 |  |
| MHARNED5 | LASPUL\_RAYMND1\_1 | Manual dbl ckt for NEDIN-BONILLA 345kV & RIOH-PRIM138kV | Las Pulgas - Raymondville 2 138kV | 5 | $23,657.31 |  |
| SWALWLN8 | TER\_DENT\_1 | WALLACE SWITCH to WALLACE SWITCH LIN 1 | Dent - Terrel 69kV | 4 | $4,147.74 |  |
| SSTAWIC8 | 138\_IH2\_COT\_1 | STAGHORN TNP to WICKETT TNP LIN 1 | Ih 20 Tnp - Collie Field Tap Tnp 138kV | 6 | $3,172.06 |  |
| DYELME89 | HEXT\_MASONS1\_1 | YELWJCKT - TREADWEL (138) & MENPHTAP (69) | Mason Switching Station - Hext Lcra 69kV | 3 | $177.33 |  |
| MLOBFOR5 | ASHERT\_CATARI1\_1 | manual double Lobo to fowlerton 1&2 345 | Asherton - Catarina 138kV | 5 | $72.34 |  |

## Generic Transmission Constraint Congestion

|  |  |
| --- | --- |
| GTC | Days Congestion |
| Panhandle GTC | 23 |
| Hamilton | 23 |
| Nelson Sharpe to Rio Hondo | 16 |
| West Texas Export | 16 |
| Zapata Starr | 16 |
| North Edinburg to Lobo | 11 |
| South Texas Export (E\_PATA) | 9 |
| South Texas Export (E\_PASP) | 7 |
| South Texas Import (I\_KALO) | 4 |
| Valley Export | 3 |
| North to Houston | 1 |
| Wharton County | 1 |
| McCamey | 1 |
| East Texas | 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)** |
| Basecase | WESTEX GTC | 23737 | $121,142,739.60 |
| MGSES TO CCRSW 345 AND BTRCK TO MGSES 345 DBLCKT | Tonkawa Switch - Morgan Creek Ses 345kV | 7456 | $87,576,954.87 |
| MGSES-LNGSW\_and\_MGSES-CONSW\_345\_DBLCKT | Morgan Creek Ses - Navigation Sub 138kV | 10586 | $79,638,965.49 |
| WLFSW-MOSSW 345&WLFSW-ODEHV 345\_\_\_\_TRPLCKT-1of3 | Odessa Ehv Switch - Yarbrough Sub 138kV | 19457 | $77,794,892.32 |
| SALSW - HUTTO 345KV | Bell County - Salado Switch 138kV | 9359 | $47,930,165.63 |
| BAKERSFIELD SWITCHYARD to CEDAR CANYON LIN 1 | Hargrove - Twin Buttes 138kV | 6610 | $40,894,479.19 |
| Basecase | PNHNDL GTC | 28146 | $39,897,487.88 |
| Basecase | NE\_LOB GTC | 26081 | $33,854,450.11 |
| Manual dbl ckt for NEDIN-BONILLA 345kV & RIOH-PRIM138kV | Burns Sub - Rio Hondo 138kV | 14719 | $32,004,313.71 |
| CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Morgan Creek Ses - Navigation Sub 138kV | 9919 | $29,958,920.99 |
| BLACKWATER DRAW SWITCH to DOUBLE MOUNTAIN SWITCH LIN 1 | Northwest Substation - Mcdonald Substation 115kV | 4834 | $26,523,546.74 |
| Bighil-Kendal 345kV | Yellow Jacket - Fort Mason 138kV | 4295 | $23,829,562.99 |
| SALSW TO KNBSW 345 AND TMPSW TO BELCNTY 138 DBLCKT | Temple Switch - Temple Southeast 138kV | 1765 | $23,816,058.37 |
| CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Polecat Creek Switch - Wrage Ranch Pod 138kV | 2267 | $22,647,310.76 |
| NAAMAN to NAAMAN LIN 1 | College - Jupiter 138kV | 2485 | $19,241,454.25 |
| BLACKWATER DRAW SWITCH to DOUBLE MOUNTAIN SWITCH LIN 1 | Mackenzie Substation - Northeast Substation 115kV | 6471 | $17,552,825.12 |
| wett\_long\_draw to Volta LIN 1 | Koch Tap - Vealmoor 138kV | 6178 | $17,148,913.61 |
| CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Alkali Lake - Jim Payne Poi 138kV | 6313 | $17,080,681.63 |
| CONSW-MGSES\_and\_CONSW-LNGSW\_345kV\_DBLCKT | Falcon Seaboard - Morgan Creek Ses 345kV | 9151 | $16,904,638.42 |
| AUSTROP to DAFFIN GIN LIN 1 | Decker Power Plant - Aen Dunlap 138kV | 1316 | $16,416,974.49 |

# System Events

## ERCOT Peak Load

The unofficial ERCOT peak load for December 2024 was 60,235 MW and occurred on 12/11/2024, during hour ending 08:00. Instantaneous peak was 60,665 MW. Actual peak for the same month last year was 56,976 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

There was 1 event of DC curtailment on 12/23/2024 16:56.

|  |  |
| --- | --- |
| **Date and Time** | **Message** |
| Dec 23, 2024, 16:56 CST | The DC\_L (Laredo VFT) DC Tie is being curtailed, a DC Tie Curtailment Notice (DCTCN) is active due to a forced outage. |

## TRE/DOE Reportable Events

None.

## New/Updated Constraint Management Plans

None.

## New/Modified/Removed RAS

None.

## New Procedures/Forms/Operating Bulletins

|  |  |  |
| --- | --- | --- |
| **Date** | **Subject** | **Bulletin No.** |
| 12/30/2024 | Transmission and Security Desk V1 Rev 117 | 1171 |
| 12/30/2024 | Shift Supervisor Desk V1 Rev 99 | 1170 |
| 12/30/2024 | Scripts V1 Rev 62 | 1169 |
| 12/30/2024 | Resource Desk V1 Rev 83 | 1168 |
| 12/30/2024 | Reliability Unit Commitment V1 Rev 76 | 1167 |
| 12/30/2024 | Reliability Risk Desk Operating Procedure V1 Rev 37 | 1166 |
| 12/30/2024 | Real Time Desk V1 Rev 101 | 1165 |
| 12/30/2024 | DC Tie V1 Rev 77 | 1164 |

# Emergency Conditions

## OCNs

None.

## Advisories

|  |  |
| --- | --- |
| **Date and Time** | **Message** |
| Dec 30, 2024, 22:18 CST | Advisory issued due to ERCOT’s Transient Security Assessment Tool is currently unavailable. |

## Watches

None.

## Emergency Notices

None.

# Application Performance

## TSAT/VSAT Performance Issues

|  |  |
| --- | --- |
| **Date** | **Note** |
| Dec 30, 2024 | ERCOT’s Transient Security Assessment Tool was unavailable for 12 minutes and 53 seconds,  20:18:00 – 20:30:53 |

## Communication Issues

None.

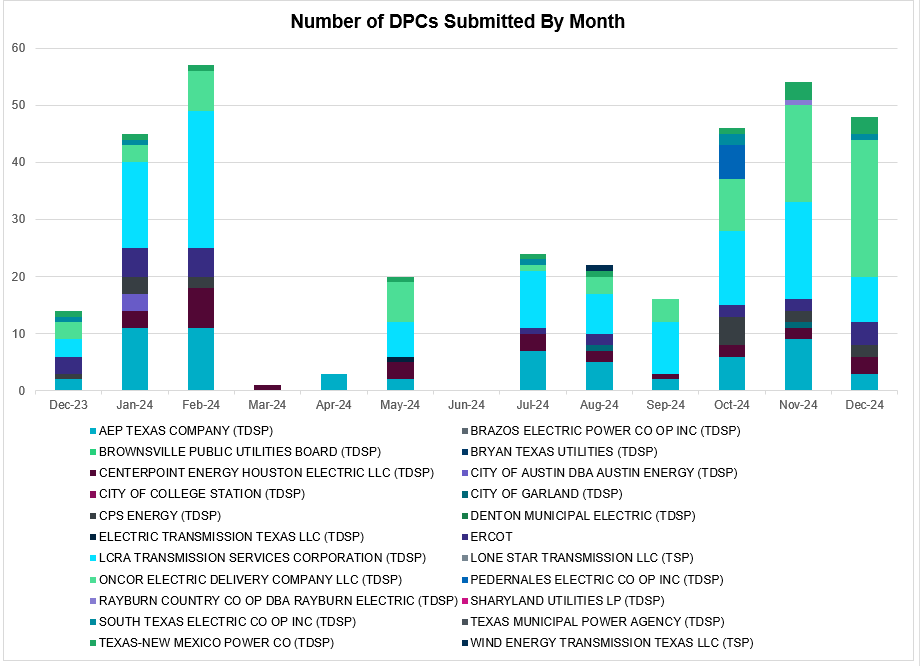
## Market System Issues

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) | 3 |
| 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) | 2 |
| DENTON MUNICIPAL ELECTRIC (TDSP) | 0 |
| ELECTRIC TRANSMISSION TEXAS LLC (TDSP) | 0 |
| ERCOT | 4 |
| LCRA TRANSMISSION SERVICES CORPORATION (TDSP) | 8 |
| LONE STAR TRANSMISSION LLC (TSP) | 0 |
| ONCOR ELECTRIC DELIVERY COMPANY LLC (TDSP) | 24 |
| 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) | 1 |
| TEXAS MUNICIPAL POWER AGENCY (TDSP) | 0 |
| TEXAS-NEW MEXICO POWER CO (TDSP) | 3 |
| 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 | Contingency Name | Overloaded Element | From Station | To Station | Count of Days |
| 2024 | December | DBIGKEN5 | FORTMA\_YELWJC1\_1 | YELWJCKT | FORTMA | 27 |
| 2024 | December | DBIGKEN5 | FORTMA\_YELWJC1\_1 | FORTMA | YELWJCKT | 27 |
| 2024 | December | BASE CASE | HMLTN | n/a | n/a | 23 |
| 2024 | December | DODEMOS5 | 6520\_\_E | ODEHV | YARBR | 23 |
| 2024 | December | BASE CASE | PNHNDL | n/a | n/a | 23 |
| 2024 | December | DCONLNG5 | 14040\_\_I | PCTSW | WRPOD | 19 |
| 2024 | December | DBAKCED5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 17 |
| 2024 | December | BASE CASE | NELRIO | n/a | n/a | 16 |
| 2024 | December | BASE CASE | ZAPSTR | n/a | n/a | 16 |
| 2024 | December | DNOECED5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 16 |
| 2024 | December | MHARNED5 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 16 |
| 2024 | December | BASE CASE | WESTEX | n/a | n/a | 16 |
| 2024 | December | MLOBFOR5 | BRUNI\_69\_1 | BRUNI | BRUNI | 15 |
| 2024 | December | DBAKCED5 | 6056\_\_A | LNGSW | CONSW | 15 |
| 2024 | December | SW\_LVLT5 | 15060\_\_B | VEALMOOR | KOCHTAP | 14 |
| 2024 | December | DWAP\_OB5 | EU\_SF\_09\_A | SF | EU | 13 |
| 2024 | December | SOWLBIG8 | BISON\_STRS1\_1 | BISON | STRS | 12 |
| 2024 | December | SOWLBIG8 | BISON\_STRS1\_1 | STRS | BISON | 12 |
| 2024 | December | SBRAHAM8 | GANSO\_MAVERI1\_1 | GANSO | MAVERICK | 11 |
| 2024 | December | DNOESGT5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 11 |
| 2024 | December | DSLKSOL5 | 138\_FLT\_FXT\_1 | TNFXTAIL | FLAT\_TOP | 11 |
| 2024 | December | BASE CASE | NE\_LOB | n/a | n/a | 11 |
| 2024 | December | DYELME89 | HEXT\_YELWJC1\_1 | YELWJCKT | HEXT | 10 |
| 2024 | December | DBIGKEN5 | HAMILT\_MAXWEL1\_1 | MAXWELL | HAMILTON | 10 |
| 2024 | December | MANSSTP5 | BLESSING\_1382 | BLESSING | BLESSING | 10 |
| 2024 | December | SSTAWIC8 | 138\_IH2\_COT\_1 | IH20 | TNCOLIET | 9 |
| 2024 | December | SJUNYEL9 | HEXT\_YELWJC1\_1 | YELWJCKT | HEXT | 9 |
| 2024 | December | DSGTSCH5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 9 |
| 2024 | December | SBWDDBM5 | LPLMK\_LPLNE\_1 | LPLMK | LPLNE | 9 |
| 2024 | December | BASE CASE | E\_PATA | n/a | n/a | 9 |
| 2024 | December | SBRAPIN8 | HAMILT\_MAVERI1\_1 | HAMILTON | MAVERICK | 9 |
| 2024 | December | SN\_SAJO5 | LASPUL\_RAYMND1\_1 | LASPULGA | RAYMND2 | 8 |
| 2024 | December | DNOECED5 | 6056\_\_A | LNGSW | CONSW | 8 |
| 2024 | December | SCMNCPS5 | 651\_\_B | CMNSW | CMNTP | 8 |
| 2024 | December | SCOLBAL8 | SANA\_FMR1 | SANA | SANA | 8 |
| 2024 | December | DBWN\_AM5 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 8 |
| 2024 | December | DMGSBTR5 | 6036\_\_A | TKWSW | MGSES | 8 |
| 2024 | December | MHARNED5 | LASPUL\_RAYMND1\_1 | LASPULGA | RAYMND2 | 7 |
| 2024 | December | SBGLTWI8 | LAKENA\_SAMATH1\_1 | LAKENASW | SAMATHIS | 7 |
| 2024 | December | DMGSBIT5 | 6036\_\_A | TKWSW | MGSES | 7 |
| 2024 | December | SEBHUG8 | ARROZ\_EL\_CAM1\_1 | ARROZ | EL\_CAMPO | 7 |
| 2024 | December | SKLELOY8 | LOYOLA\_69\_1 | LOYOLA | LOYOLA | 7 |
| 2024 | December | DBIGSCH5 | HARGRO\_TWINBU1\_1 | TWINBU | HARGROVE | 7 |
| 2024 | December | DHUGWR\_8 | ARROZ\_EL\_CAM1\_1 | ARROZ | EL\_CAMPO | 7 |
| 2024 | December | BASE CASE | E\_PASP | n/a | n/a | 7 |
| 2024 | December | DBAKCED5 | LAKENA\_SAMATH1\_1 | LAKENASW | SAMATHIS | 6 |
| 2024 | December | MANGSTP5 | BLESSING\_1382 | BLESSING | BLESSING | 6 |
| 2024 | December | SBRAPIN8 | GANSO\_MAVERI1\_1 | GANSO | MAVERICK | 6 |
| 2024 | December | DKG\_NB\_5 | HL\_PSA08\_A | PSA | HL | 6 |
| 2024 | December | DBAKCED5 | STCO\_STER1\_1 | STER | STCO | 6 |
| 2024 | December | XBGL88 | BISON\_STRS1\_1 | BISON | STRS | 5 |
| 2024 | December | SN\_SAJO5 | LOYOLA\_69\_1 | LOYOLA | LOYOLA | 5 |
| 2024 | December | MMOSME35 | 6520\_\_E | ODEHV | YARBR | 5 |
| 2024 | December | DBLBYWF5 | JCKSTP18\_A | STP | JCK | 5 |
| 2024 | December | DCONLNG5 | 6046\_\_A | MGSES | FLCNS | 5 |
| 2024 | December | MLOBFOR5 | ASHERT\_CATARI1\_1 | ASHERTON | CATARINA | 5 |
| 2024 | December | DELMTEX5 | BLESSING\_1382 | BLESSING | BLESSING | 5 |
| 2024 | December | SMADSAP8 | MADDUX\_SAPOWE2\_1 | MADDUX | SAPOWER | 5 |
| 2024 | December | MLOBFOR5 | ASHERT\_CATARI1\_1 | CATARINA | ASHERTON | 5 |
| 2024 | December | MLOBFOR5 | DEL\_MA\_LAREDO1\_1 | LAREDO | DEL\_MAR | 5 |
| 2024 | December | SPEBTRU8 | 940\_\_A | ENWSW | TMPTN | 5 |
| 2024 | December | SESMFRI8 | BIGLAK\_PHBL\_T1\_1 | BIGLAKE | PHBL\_TAP | 5 |
| 2024 | December | SVLSANA5 | 389\_\_A | WDDSW | MNSES | 4 |
| 2024 | December | BASE CASE | I\_KALO | n/a | n/a | 4 |
| 2024 | December | SBWDDBM5 | LPLNW\_LPLMD\_1 | LPLNW | LPLMD | 4 |
| 2024 | December | DCONLNG5 | 6045\_\_A | FLCNS | MDLNE | 4 |
| 2024 | December | SES2FRI8 | BIGLAK\_PHBL\_T1\_1 | BIGLAKE | PHBL\_TAP | 4 |
| 2024 | December | MLOBFOR5 | CATARI\_PILONC1\_1 | CATARINA | PILONCIL | 4 |
| 2024 | December | MLOBFOR5 | CATARI\_PILONC1\_1 | PILONCIL | CATARINA | 4 |
| 2024 | December | SBRAHAM8 | ESCOND\_GANSO1\_1 | GANSO | ESCONDID | 4 |
| 2024 | December | DBLHJWF5 | JCKSTP18\_A | STP | JCK | 4 |
| 2024 | December | SWALWLN8 | TER\_DENT\_1 | TERREL\_D | DENT\_RD | 4 |
| 2024 | December | MEXCHC45 | 595\_\_A | BNTSW | DCATR | 4 |
| 2024 | December | MHARNED5 | SCARBI\_STILLM1\_1 | SCARBIDE | STILLMAN | 4 |
| 2024 | December | SWALWLN8 | TER\_DENT\_1 | DENT\_RD | TERREL\_D | 4 |
| 2024 | December | SBRAHAM8 | ESCOND\_GANSO1\_1 | ESCONDID | GANSO | 4 |
| 2024 | December | SMDOPHR5 | G138\_10B\_1 | SEMINOLE | MAGNO\_TN | 4 |
| 2024 | December | DNORWLV5 | 3160\_\_A | OKCLS | CDCSW | 4 |
| 2024 | December | DDILCOT8 | DILLEYSW\_XF1L | DILLEYSW | DILLEYSW | 3 |
| 2024 | December | BASE CASE | VALEXP | n/a | n/a | 3 |
| 2024 | December | DYELME89 | HEXT\_MASONS1\_1 | HEXT | MASONSW | 3 |
| 2024 | December | XALM689 | ALMC\_T2 | ALMC | ALMC | 3 |
| 2024 | December | SJUNYEL9 | HEXT\_MASONS1\_1 | HEXT | MASONSW | 3 |
| 2024 | December | BASE CASE | HHGTOM\_1 | HHGT | OMEGA | 3 |
| 2024 | December | DANACDE5 | 105\_\_B | RNKSW | LWSSW | 3 |
| 2024 | December | SSWCLNC5 | 6025\_\_A | LNCRK | MULBERRY | 3 |
| 2024 | December | UCOLCOL1 | BLESSING\_1382 | BLESSING | BLESSING | 3 |
| 2024 | December | SCOLBAL8 | COLJ\_SANA1\_1 | SANA | COLJ | 3 |
| 2024 | December | DWAP\_OB5 | EU\_WO\_09\_A | EU | WO | 3 |
| 2024 | December | SVLSANA5 | 390\_\_A | PRSSW | WDDSW | 3 |
| 2024 | December | DRNKLWS5 | 595\_\_A | BNTSW | DCATR | 3 |
| 2024 | December | SSTAPYO8 | 138\_IH2\_COT\_1 | IH20 | TNCOLIET | 3 |
| 2024 | December | SRRDLCS5 | 235\_\_B | BALSW | JEWET | 3 |
| 2024 | December | DMTSCOS5 | 6437\_\_F | SCRCV | KNAPP | 3 |
| 2024 | December | DBRNCMN8 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 3 |
| 2024 | December | BASE CASE | EBONY\_GENTIE\_1 | EBNY\_ESS | EBNY\_ESS | 3 |
| 2024 | December | SOWLBIG8 | PHBL\_T\_STRS1\_1 | STRS | PHBL\_TAP | 3 |
| 2024 | December | DWCSH285 | 583\_\_D | DCRSW | ALISN | 3 |
| 2024 | December | SSWCLNC5 | 6025\_\_A | MULBERRY | LNCRK | 3 |
| 2024 | December | SBAKCED5 | BAKRFLD\_CEDCAN\_1 | CEDACA | BAKESW | 3 |
| 2024 | December | SOZNFRI9 | BIGLAK\_PHBL\_T1\_1 | BIGLAKE | PHBL\_TAP | 3 |
| 2024 | December | SOAKNIC8 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 3 |
| 2024 | December | XBAL89 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 3 |
| 2024 | December | SSGVTRC5 | 175\_\_A | TRCNR | FORSW | 3 |
| 2024 | December | SWALWLN8 | 568\_\_A | RYSSW | NEVADA | 2 |
| 2024 | December | DVICVI89 | COLETO\_VICTOR2\_1 | COLETO | VICTORIA | 2 |
| 2024 | December | SBRAPIN8 | ESCOND\_GANSO1\_1 | ESCONDID | GANSO | 2 |
| 2024 | December | SBRAPIN8 | ESCOND\_GANSO1\_1 | GANSO | ESCONDID | 2 |
| 2024 | December | DBIGSCH5 | PALOUS\_WOLFCA1\_1 | PALOUSE | WOLFCAMP | 2 |
| 2024 | December | MEXCHC45 | 583\_\_D | DCRSW | ALISN | 2 |
| 2024 | December | MEXCHC45 | 584\_\_A | KRMSW | ARGYL | 2 |
| 2024 | December | DFRIILL8 | HAMILT\_MAXWEL1\_1 | MAXWELL | HAMILTON | 2 |
| 2024 | December | SELMMA25 | MARN\_ELMCRK1\_1 | ELMCREEK | MARION | 2 |
| 2024 | December | MBONNED5 | SCARBI\_STILLM1\_1 | SCARBIDE | STILLMAN | 2 |
| 2024 | December | SSPUASP8 | ASPM\_SWEN1\_1 | SWEN | ASPM | 2 |
| 2024 | December | DBIGKEN5 | CARVER\_TINSLE1\_1 | CARVER | TINSLEY | 2 |
| 2024 | December | DBIGKEN5 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 2 |
| 2024 | December | SCOLPAW5 | MAGRUD\_VICTOR2\_1 | VICTORIA | MAGRUDER | 2 |
| 2024 | December | DKRWCDE5 | 105\_\_B | RNKSW | LWSSW | 2 |
| 2024 | December | SCONMGS5 | 6056\_\_A | LNGSW | CONSW | 2 |
| 2024 | December | DSALKLN5 | 630\_\_B | KLNSW | HHSTH | 2 |
| 2024 | December | SCARFRI8 | ATSO\_SONR1\_1 | SONR | ATSO | 2 |
| 2024 | December | SLAQLOB8 | BRUNI\_69\_1 | BRUNI | BRUNI | 2 |
| 2024 | December | DNOECED5 | LAKENA\_SAMATH1\_1 | LAKENASW | SAMATHIS | 2 |
| 2024 | December | SPAWCAL5 | MAGRUD\_VICTOR2\_1 | VICTORIA | MAGRUDER | 2 |
| 2024 | December | DTRSRCH5 | MEXIA\_AT1 | MEXIA | MEXIA | 2 |
| 2024 | December | SCONMGS5 | MGSES\_MR1H | MGSES | MGSES | 2 |
| 2024 | December | SOBWA2P5 | OB\_WAP99\_A | WAP | OB | 2 |
| 2024 | December | SMV\_PAR8 | RIOHND\_ERIOHND\_1 | MV\_RIOHO | RIOHONDO | 2 |
| 2024 | December | DSGVTRC5 | 175\_\_A | TRCNR | FORSW | 2 |
| 2024 | December | DJACALV8 | 2115\_\_B | TOWER | BNTSW | 2 |
| 2024 | December | DKG\_NB\_5 | BCVPSA03\_A | PSA | BCV | 2 |
| 2024 | December | DSTPHLJ5 | CKT\_3124\_1 | STP | HLJ | 2 |
| 2024 | December | DMCCI\_D8 | HECKER\_RESNIK1\_1 | RESNIK | HECKER | 2 |
| 2024 | December | DSGTSCH5 | LAKENA\_SAMATH1\_1 | LAKENASW | SAMATHIS | 2 |
| 2024 | December | SRUSBIG8 | LAKENA\_SAMATH1\_1 | LAKENASW | SAMATHIS | 2 |
| 2024 | December | DBCVPSA8 | LHMLY\_08\_A | LHM | LY | 2 |
| 2024 | December | DSKYCAL5 | N5\_R5\_1 | CALAVERS | CAGNON | 2 |
| 2024 | December | DSKYCAL5 | PAWNEE\_SPRUCE\_1 | CALAVERS | PAWNEE | 2 |
| 2024 | December | DSKYCAL5 | PAWNE\_SANMI\_1A\_1 | PAWNEE | SANMIGL | 2 |
| 2024 | December | BASE CASE | THOMASTN\_PS1 | THOMASTN | THOMASTN | 2 |
| 2024 | December | DRAZSA89 | UVALDE\_W\_BATE1\_1 | UVALDE | W\_BATESV | 2 |
| 2024 | December | DSWECCR5 | 6036\_\_A | TKWSW | MGSES | 2 |
| 2024 | December | MWHPLON5 | BLESSING\_1382 | BLESSING | BLESSING | 2 |
| 2024 | December | DBAKCED5 | CROSSO\_PALOUS1\_1 | PALOUSE | CROSSOVE | 2 |
| 2024 | December | SBRAHAM8 | HAMILT\_MAVERI1\_1 | HAMILTON | MAVERICK | 2 |
| 2024 | December | XLAS95 | COCS\_FTST1\_1 | FTST | COCS | 2 |
| 2024 | December | SCRMSAR8 | CONCHO\_VRBS1\_1 | CONCHO | VRBS | 2 |
| 2024 | December | DLOBCEN5 | LOYOLA\_69\_1 | LOYOLA | LOYOLA | 2 |
| 2024 | December | DCONLNG5 | MGSES\_MR1H | MGSES | MGSES | 2 |
| 2024 | December | SW\_LVLT5 | 15060\_\_A | KOCHTAP | BUZSW | 2 |
| 2024 | December | MEXCRNK5 | 595\_\_A | BNTSW | DCATR | 2 |
| 2024 | December | DNOESGT5 | 6056\_\_A | LNGSW | CONSW | 2 |
| 2024 | December | DSGTSCH5 | 6056\_\_A | LNGSW | CONSW | 2 |
| 2024 | December | SNADRIC8 | NAD\_ELCM\_1 | ELCMPOS | NADAS | 1 |
| 2024 | December | DSKYCAL5 | R5\_U3\_1 | BRAUNIG | CAGNON | 1 |
| 2024 | December | DBWNAMO5 | SAPOWE\_SAST1\_1 | SAPOWER | SAST | 1 |
| 2024 | December | SMV\_RI28 | SCARBI\_STILLM1\_1 | SCARBIDE | STILLMAN | 1 |
| 2024 | December | DBLBYWF5 | STPWAP39\_1 | STP | WAP | 1 |
| 2024 | December | DCAGCI58 | 255T279\_1 | PIPECR | MEDILA | 1 |
| 2024 | December | SW\_LVLT5 | 6217\_\_A | WLVSW | GAILS | 1 |
| 2024 | December | DWLFMOS5 | 6520\_\_E | ODEHV | YARBR | 1 |
| 2024 | December | DCAGCI58 | 656T656\_1 | KENDAL | BERGHE | 1 |
| 2024 | December | SWRDYN8 | ARROZ\_EL\_CAM1\_1 | ARROZ | EL\_CAMPO | 1 |
| 2024 | December | SBENS\_M8 | BENTS\_FRTER\_1B\_1 | FRONTERA | S\_MISSIN | 1 |
| 2024 | December | DDILCOT8 | DILLEYSW\_XF1H | DILLEYSW | DILLEYSW | 1 |
| 2024 | December | SBROLAS9 | FTST\_69T1 | FTST | FTST | 1 |
| 2024 | December | DBUNMYK8 | HOCKB\_90\_A | HOC | KB | 1 |
| 2024 | December | SWILJA28 | JACKCNTY\_BLSRA\_1 | JACKCNTY | BLSRA | 1 |
| 2024 | December | SN\_SLON5 | KINGSV\_KLEBER1\_1 | KLEBERG | KINGSVIL | 1 |
| 2024 | December | SSPUSLT8 | ROBY\_ROTN1\_1 | ROBY | ROTN | 1 |
| 2024 | December | SRICAE8 | SN\_STR26\_A | STR | SN | 1 |
| 2024 | December | SRRDLCS5 | 1225\_\_A | RIESW | LCSES | 1 |
| 2024 | December | DSALHUT5 | 1710\_\_C | BELCNTY | SALSW | 1 |
| 2024 | December | DCDHTVW5 | 310\_\_A | LIGSW | NORSW | 1 |
| 2024 | December | DEMSHCK8 | 583\_\_D | DCRSW | ALISN | 1 |
| 2024 | December | DWCSH185 | 583\_\_D | DCRSW | ALISN | 1 |
| 2024 | December | DWCSH285 | 584\_\_A | KRMSW | ARGYL | 1 |
| 2024 | December | DWCSH285 | 595\_\_A | BNTSW | DCATR | 1 |
| 2024 | December | SSANPYT8 | ARROZ\_EL\_CAM1\_1 | ARROZ | EL\_CAMPO | 1 |
| 2024 | December | DHOLCIS5 | BLESSING\_1382 | BLESSING | BLESSING | 1 |
| 2024 | December | SMCEABS8 | CAPELL\_MERK1\_1 | CAPELLA | MERK | 1 |
| 2024 | December | SILLFTL8 | CARVER\_TINSLE1\_1 | CARVER | TINSLEY | 1 |
| 2024 | December | SBROALP9 | COCS\_FTST1\_1 | FTST | COCS | 1 |
| 2024 | December | DBWN\_AM5 | HARI\_VRBS1\_1 | VRBS | HARI | 1 |
| 2024 | December | XBGL88 | PHBL\_T\_STRS1\_1 | STRS | PHBL\_TAP | 1 |
| 2024 | December | XPH3R58 | PHR\_AT1H | PHR | PHR | 1 |
| 2024 | December | DRTWRNS5 | TB\_AT1 | TB | TB | 1 |
| 2024 | December | DBUCRGP5 | 325\_\_A | BLFSW | TMPCR | 1 |
| 2024 | December | DNAVOUT5 | 50\_\_A | JEWET | BBSES | 1 |
| 2024 | December | MEXCRNK5 | 583\_\_D | DCRSW | ALISN | 1 |
| 2024 | December | SWCPYT8 | ARROZ\_EL\_CAM1\_1 | ARROZ | EL\_CAMPO | 1 |
| 2024 | December | SVICCO28 | COLETO\_VICTOR2\_1 | COLETO | VICTORIA | 1 |
| 2024 | December | DKG\_NB\_5 | GP\_TNK94\_A | GP | TNK | 1 |
| 2024 | December | SILLFTL8 | HAMILT\_MAXWEL1\_1 | MAXWELL | HAMILTON | 1 |
| 2024 | December | SMDOOAS5 | HOCST\_25\_A | ST | HOC | 1 |
| 2024 | December | SOXYIN28 | I\_DUPP\_I\_DUPS2\_1 | I\_DUPP1 | I\_DUPSW | 1 |
| 2024 | December | SI\_DWH38 | I\_DUPS\_RESNIK2\_2 | I\_DUPSW | RESNIK | 1 |
| 2024 | December | SSKYCA25 | N5\_P4\_2\_1 | CALAVERS | SKYLINE | 1 |
| 2024 | December | XPH258 | PHR\_AT2 | PHR | PHR | 1 |
| 2024 | December | DRAZSA89 | READIN\_UVALDE1\_1 | UVALDE | READING | 1 |
| 2024 | December | DNOESGT5 | STCO\_STER1\_1 | STER | STCO | 1 |
| 2024 | December | DRNS\_TB5 | THWZEN71\_A | ZEN | THW | 1 |
| 2024 | December | SESCROS8 | UVALDE\_W\_BATE1\_1 | UVALDE | W\_BATESV | 1 |
| 2024 | December | BASE CASE | VENSW\_MR1L | VENSW | VENSW | 1 |
| 2024 | December | DNAVVEN5 | 31\_\_A | RCHBR | TRSES | 1 |
| 2024 | December | SBLSJAC8 | 560\_\_B | BRGPR | BTPTM | 1 |
| 2024 | December | SRICAE8 | AE\_STR26\_A | AE | STR | 1 |
| 2024 | December | DSKYCAL5 | COLETO\_ROSATA1\_1 | COLETO | ROSATA | 1 |
| 2024 | December | BASE CASE | EASTEX | n/a | n/a | 1 |
| 2024 | December | DPHRAL58 | G138\_10B\_1 | SEMINOLE | MAGNO\_TN | 1 |
| 2024 | December | SLGEI\_D8 | I\_DUPS\_RESNIK2\_2 | I\_DUPSW | RESNIK | 1 |
| 2024 | December | DSKYCAL5 | KARNES\_KENEDS1\_1 | KENEDSW | KARNESCI | 1 |
| 2024 | December | DNOESGT5 | LAKENA\_SAMATH1\_1 | LAKENASW | SAMATHIS | 1 |
| 2024 | December | SSTEMVH8 | L\_MILP\_STEWAR1\_1 | STEWART | L\_MILPAS | 1 |
| 2024 | December | MMGSFLC5 | MGSES\_MR1H | MGSES | MGSES | 1 |
| 2024 | December | XPH258 | PHR\_AT2H | PHR | PHR | 1 |
| 2024 | December | DHJWFCK5 | STPWAP39\_1 | STP | WAP | 1 |
| 2024 | December | XSGV58 | 175\_\_A | TRCNR | FORSW | 1 |
| 2024 | December | DNAVVEN5 | 230\_\_B | SJNSW | RRDSW | 1 |
| 2024 | December | DKLNRGP5 | 325\_\_A | BLFSW | TMPCR | 1 |
| 2024 | December | DCPSES12 | 35055\_\_A | SAMSW | VENSW | 1 |
| 2024 | December | MTCRTHS5 | 505\_\_B | THSES | FBRSW | 1 |
| 2024 | December | SLCSTH25 | 506\_\_A | FBRSW | SAMSW | 1 |
| 2024 | December | DLWSRNK5 | 587\_\_A | ARGYL | LWSVH | 1 |
| 2024 | December | SCACHUG8 | ARROZ\_EL\_CAM1\_1 | ARROZ | EL\_CAMPO | 1 |
| 2024 | December | DWPWFWP5 | BLESSING\_1382 | BLESSING | BLESSING | 1 |
| 2024 | December | MANGWHP5 | BLESSING\_1382 | BLESSING | BLESSING | 1 |
| 2024 | December | DLYTCIS5 | CKT\_3132\_1 | FPPYD1 | WINCHES | 1 |
| 2024 | December | BASE CASE | MCCAMY | n/a | n/a | 1 |
| 2024 | December | XFL2C58 | MGSES\_MR1H | MGSES | MGSES | 1 |
| 2024 | December | DWPWFCK5 | STPWAP39\_1 | STP | WAP | 1 |
| 2024 | December | DWPWFWP5 | STPWAP39\_1 | STP | WAP | 1 |
| 2024 | December | SZENTH35 | THWZEN71\_A | ZEN | THW | 1 |
| 2024 | December | DRAZHON8 | UVALDE\_W\_BATE1\_1 | UVALDE | W\_BATESV | 1 |
| 2024 | December | BASE CASE | VENSW\_MR1H | VENSW | VENSW | 1 |
| 2024 | December | BASE CASE | WHARTN | n/a | n/a | 1 |
| 2024 | December | DRARGA58 | 1300T465\_1 | ROMA | ESCOBA | 1 |
| 2024 | December | SVENFTS5 | 35055\_\_A | SAMSW | VENSW | 1 |
| 2024 | December | MTCRTHS5 | 506\_\_A | FBRSW | SAMSW | 1 |
| 2024 | December | SSUNMGS8 | 6240\_\_C | SACRC | DPCRK | 1 |
| 2024 | December | SWCAE8 | AE\_STR26\_A | AE | STR | 1 |
| 2024 | December | XFTS89 | ALPINE\_BRONCO1\_1 | ALPINE | BRONCO | 1 |
| 2024 | December | SHONMOO8 | BIG\_FO\_PLEASA1\_1 | BIG\_FOOT | PLEASANT | 1 |
| 2024 | December | DLYTCIS5 | BLESSING\_1382 | BLESSING | BLESSING | 1 |
| 2024 | December | DJN\_RO28 | BR\_HOC09\_A | BR | HOC | 1 |
| 2024 | December | SREAUVA8 | DOWNIES\_AX1H | DOWNIES | DOWNIES | 1 |
| 2024 | December | BASE CASE | N\_TO\_H | n/a | n/a | 1 |
| 2024 | December | SSPUSLT8 | ROBY\_ROTN1\_1 | ROTN | ROBY | 1 |
| 2024 | December | DGIBZEN5 | SNGZEN99\_A | SNG | ZEN | 1 |
| 2024 | December | SVLSANA5 | 1561\_\_A | DPREA | RCSES | 1 |
| 2024 | December | DLYTCIS5 | 179T667\_1 | SALEM | RTOPTA | 1 |
| 2024 | December | DKENCA58 | 255T279\_1 | PIPECR | MEDILA | 1 |
| 2024 | December | SBCESN35 | 431\_\_A | BCESW | SNDSW | 1 |
| 2024 | December | DSALHUT5 | 450\_\_A | SNDSW | AUSTRO | 1 |
| 2024 | December | DBLBYWF5 | BLESSING\_1382 | BLESSING | BLESSING | 1 |
| 2024 | December | MLONWHP5 | BLESSING\_1382 | BLESSING | BLESSING | 1 |
| 2024 | December | SFPPLYT5 | CKT\_3121\_1 | CISTERN | LYTTON\_S | 1 |
| 2024 | December | DHOLCIS5 | CKT\_3132\_1 | FPPYD1 | WINCHES | 1 |
| 2024 | December | SRAYRI38 | HAINE\_\_LA\_PAL1\_1 | LA\_PALMA | HAINE\_DR | 1 |
| 2024 | December | SWCAE8 | SN\_STR26\_A | STR | SN | 1 |
| 2024 | December | DHOLCIS5 | 179T667\_1 | SALEM | RTOPTA | 1 |
| 2024 | December | DRAZSA89 | 2585\_1 | DOWNIES | MOORE | 1 |
| 2024 | December | SCMNCPS5 | 651\_\_C | CMNTP | SHILO | 1 |
| 2024 | December | DCAGCO58 | 656T656\_1 | KENDAL | BERGHE | 1 |
| 2024 | December | DLC\_PG\_8 | ARROZ\_EL\_CAM1\_1 | ARROZ | EL\_CAMPO | 1 |
| 2024 | December | SCARLVO8 | ELDO\_LVOK1\_1 | LVOK | ELDO | 1 |
| 2024 | December | DSTERI89 | L\_MILP\_STEWAR1\_1 | STEWART | L\_MILPAS | 1 |
| 2024 | December | DHWIND89 | MORRIS\_NUECES1\_1 | NUECES\_B | MORRIS | 1 |

1. Current Wind Generation Record: 28,373 MW on 01/04/2025 at 19:25 | Current Wind Penetration Record: 69.15% on 04/10/2022 at 01:43

   Current Solar Generation Record: 21,667 MW on 09/08/2024 at 14:03 | Current Solar Penetration Record: 44.17% 11/20/2024 at 14:55 [↑](#footnote-ref-2)