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| NPRR Number | [1219](https://www.ercot.com/mktrules/issues/NPRR1219) | NPRR Title | Methodology Revisions and New Definitions for the Report on Capacity, Demand and Reserves in the ERCOT Region (CDR) |
| Date of Decision | July 31, 2024 |
| Action | Recommended Approval |
| Timeline | Urgent |
| Estimated Impacts | Cost/Budgetary: Less than $20k (Operations & Maintenance (O&M))Project Duration: No project required |
| Proposed Effective Date | Grey-boxed language: No earlier than January 1, 2025;All remaining language: The first of the month following Public Utility Commission of Texas (PUCT) approval |
| Priority and Rank Assigned | Not applicable |
| Nodal Protocol Sections Requiring Revision  | 2.1, Definitions2.2, Acronyms and Abbreviations3.2.6, Report on Capacity, Demand, and Reserves in the ERCOT Region (new)3.2.6, ERCOT Planning Reserve Margin3.2.6.1, Minimum ERCOT Planning Reserve Margin Criterion (delete)3.2.6.2, Effective Load Carrying Capability (ELCC) Studies (new)3.2.6.2, ERCOT Planning Reserve Margin Calculation Methodology (delete)3.2.6.2.1, Peak Load Estimate (delete)3.2.6.2.2, Total Capacity Estimate (delete)3.2.6.3, Firm Peak Load and Firm Peak Net Load Estimates (new)3.2.6.4, Total Capacity Estimates (new)16.5.4, Maintaining and Updating Resource Entity Information |
| Related Documents Requiring Revision/Related Revision Requests | Notice of Unavailable Capacity for Switchable Generation Resources  |
| Revision Description | This Nodal Protocol Revision Request (NPRR) changes the methodologies for preparation of the Report on Capacity, Demand, and Reserves in the ERCOT Region (“CDR”) and incorporates a report release schedule. Other changes include new definitions to support the methodology changes and revisions to address outdated terms and add clarity to the methodology descriptions. Finally, Section 16.5.4, Maintaining and Updating Resource Entity Information, is updated to require Switchable Generation Resource (SWGR) owners to provide information on unavailable SWGR units for all seasons rather than just for the summer and winter. A revised SWGR data reporting form will be posted to the ERCOT website.Changes in this NPRR are as follows:* Report Planning Reserve Margins (PRMs) and associated Loads and resources for both the peak Load hour as well as the peak Net Load hour (a new definition) for all seasons rather just the summer and winter;
* Include existing and planned Energy Storage Resources (ESRs) as available capacity for the calculation of PRMs, and classify battery ESRs by duration categories;
* Replace peak average capacity contributions for wind and solar Resources with Effective Load Carrying Capabilities (ELCCs), and estimate ELCCs for battery energy storage systems;
* Adds three solar regions to the CDR to determine solar capacity availability forecasts for those regions in place of single system capacity availability forecasts;
* Planned resources must meet additional criteria in the Planning Guide to be eligible for inclusion in the CDR. Specifically, a Transmission Service Provider (TSP) received a notice to proceed with the construction of the interconnection and has been provided with sufficient financial security to fund the interconnection facilities;
* A new category of planned retirements is included reflecting Generation Resources for which a Notification of Suspension of Operations (NSO), has not been submitted to ERCOT, but a public announcement of the owner’s intent to retire a Generation Resource has been made;
* Streamline the methodology for estimating Emergency Response Service (ERS) forecasted capacity, and allowing ERCOT to adjust the forecasts based on expectations for ERS program changes;
* Include distribution voltage reduction as a resource for PRM calculation;
* Explicitly define an existing Generation Resource as one that has an ERCOT Resource Commissioning Date or an ERCOT Transmission Grid synchronization approval date; and
* For mothballed Generation Resources, increased the probability-of-return threshold to be included in PRMs from 50% to 75%.
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| Reason for Revision |  [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 1 – Be an industry leader for grid reliability and resilience [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 2 - Enhance the ERCOT region’s economic competitiveness with respect to trends in wholesale power rates and retail electricity prices to consumers [Strategic Plan](https://www.ercot.com/files/docs/2023/08/25/ERCOT-Strategic-Plan-2024-2028.pdf) Objective 3 - Advance ERCOT, Inc. as an independent leading industry expert and an employer of choice by fostering innovation, investing in our people, and emphasizing the importance of our mission General system and/or process improvement(s) Regulatory requirements ERCOT Board/PUCT Directive*(please select ONLY ONE – if more than one apply, please select the ONE that is most relevant)* |
| Justification of Reason for Revision and Market Impacts | This NPRR improves forecasts in the CDR given Resource mix trends (more Inverter-Based Resources (IBRs) relative to dispatchable resources, which is changing the timing of the hours with the greatest reserve scarcity risk) and extend reporting to all seasons. Many of the proposed changes to the CDR, such as a switch to ELCCs and reporting of Loads and resources during the forecasted peak Net Load hour, are consistent with direction from the PUCT and supported by Market Participants as expressed at workshops and working group meetings. Other changes are intended to align methodologies for the CDR with other implemented Protocol changes (e.g., ERCOT-directed deployment of distribution voltage reduction). |
| PRS Decision | On 3/20/24, PRS voted unanimously to table NPRR1219 and refer the issue to WMS. All Market Segments participated in the vote.On 7/18/24, PRS voted to grant NPRR1219 Urgent status. There were five opposing votes from the Consumer (Occidental), Independent Generator (ENGIE), and Investor Owned Utilities (IOUs) (3) (Oncor, TNMP, CNP) Market Segments, and five abstentions from the Consumer (Residential), Independent Power Marketers (IPMs) (Tenaska), and Municipal (3) (CPS Energy, GEUS, Austin Energy) Market Segments.PRS then voted to recommend approval of NPRR1219 as amended by the 7/9/24 ERCOT comments and to forward to TAC NPRR1219 and the 3/5/24 Impact Analysis with a recommended priority of 2024 and rank of 4110. There was one opposing vote from the Consumer (Occidental) Market Segment, and five abstentions from the Consumer (Residential), Independent Generator (2) (ENGIE, EDP Renewables), IPM (Tenaska), and Municipal (GEUS) Market Segments. All Market Segments participated in the votes. |
| Summary of PRS Discussion | On 3/20/24, ERCOT Staff reviewed NPRR1219. ERCOT Staff presented NPRR1219; participants requested further review by WMS.On 7/18/24, ERCOT Staff reviewed the 7/9/24 ERCOT comments. Participants noted discussions at the Supply Analysis Working Group (SAWG), and expressed a preference to have revisions implemented before December 2024 and debated Urgent status for NPRR1219. |
| TAC Decision | On 7/31/24, TAC voted to recommend approval of NPRR1219 as recommended by PRS in the 7/18/24 PRS Report as amended by the 7/29/24 ERCOT comments as revised by TAC; and the 7/30/24 Revised Impact Analysis; with a recommended effective date of no earlier than January 1, 2025 for the grey-boxed language and the first of the month following PUCT approval for all remaining language. There were two opposing votes from the Consumer (CMC Steel, Lyondell Chemical) Market Segment, and four abstentions from the Consumer (2) (Residential, OPUC), Independent Generator (ENGIE), and IPM (SENA) Market Segments. All Market Segments participated in the vote. |
| Explanation of Opposing TAC Votes | **Cooperative/CMC Steel Texas** – CMC Steel Texas agrees with the comments of Lyondell Chemical below. **Cooperative/Lyondell Chemical** – LyondellBasell believes that the TAC vote on NPRR1219 should have been tabled to allow TAC members to have time for further review given the complexity of the ELCC analysis for renewable generation and the importance of the CDR in policy reviews at the PUCT and the Texas Legislature. Unlike thermal generation, the output of wind and solar facilities is impacted both by the time of day and location of the resources given a particular weather pattern for that day.  Load can is also locationally impacted (such as cloud cover over a metro area during summer peak hours). These impacts are often interrelated (for instance, low wind and reduced solar output during cloudy, cooler days during the summer that also lowers load).  As such, more time to review and assess the approach used by ERCOT would be worthwhile to get the best estimates for future CDRs. |
| Summary of TAC Discussion | On 7/31/24, in addition to TAC review of the items below, participants reviewed the 7/29/24 ERCOT comments and ERCOT Staff-proposed desktop edits, and debated whether NPRR1219 should be tabled to await the PUCT’s pending reliability standard, and whether the CDR and pending reliability standard are independent of each other. Participants noted that NPRR1219 provides valuable incremental improvements to the CDR and should be implemented timely for the December report, that provisions were discussed extensively at SAWG, and that no Market Participants had filed comments to NPRR1219 expressing concerns for methodology or otherwise. |
| TAC Review/Justification of Recommendation |  Revision Request ties to Reason for Revision as explained in Justification  Impact Analysis reviewed and impacts are justified as explained in Justification Opinions were reviewed and discussed Comments were reviewed and discussed (if applicable) Other: (explain) |

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| **Opinions** |
| **Credit Review** | ERCOT Credit Staff and the Credit Finance Sub Group (CFSG) have reviewed NPRR1219 and do not believe that it requires changes to credit monitoring activity or the calculation of liability. |
| **Independent Market Monitor Opinion** | IMM has no opinion on NPRR1219. |
| **ERCOT Opinion** | ERCOT supports approval of NPRR1219. |
| **ERCOT Market Impact Statement** | ERCOT Staff has reviewed NPRR1219 and believes it provides a positive market impact by improving forecasts in the CDR given Resource mix trends, more closely aligning planned resource eligibility criteria with Planning Guide requirements, and incorporating ESR availabilities. |

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| Sponsor |
| Name | Pete Warnken |
| E-mail Address | Pete.Warnken@ercot.com  |
| Company | ERCOT |
| Phone Number | (512) 248-6705 |
| Cell Number | (512) 585-2246 |
| Market Segment | None |

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| **Market Rules Staff Contact** |
| **Name** | Brittney Albracht |
| **E-Mail Address** | Brittney.Albracht@ercot.com  |
| **Phone Number** | 512-225-7027 |

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| **Comments Received** |
| **Comment Author** | **Comment Summary** |
| WMS 040424 | Requested PRS continue to table NPRR1219 for further review by the SAWG  |
| ERCOT 070924 | Recommended removing “annual” from average ELCC references to clarify that seasonal ELCC values will be used in the CDR; removing specific starting and ending hours for the seasonal Reserve Risk Period definitions; and removing ESR design duration class definitions |
| ERCOT 072924 | Recommended grey-boxed language that will not be implemented prior to January 1, 2025 |

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| **Market Rules Notes** |

Please note the baseline language in the following sections has been updated to reflect the incorporation of the following NPRRs into the Protocols:

* NPRR1206, Revisions to QSE Operations and Termination Requirements, and Elimination of Providing Certain Market Participant Principal Information (incorporated 5/1/24)
	+ Section 16.5.4

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| Proposed Protocol Language Revision |

## 2.1 DEFINITIONS

Effective Load Carrying Capability (ELCC)

Represents the aggregate average megawatt (MW) contribution of a resource class in maintaining a target level of resource reliability for a given resource portfolio and forecast period. ELCCs are developed using Monte Carlo system simulation techniques to capture a wide range of system reliability outcomes. ELCC derivation starts with a base portfolio constructed to achieve the target reliability level. The resource class (e.g., wind) is removed and substituted with capacity that has perfect availability until the target reliability level is again reached. The ELCC is the amount of perfect capacity added divided by the amount of the resource class capacity removed, expressed as a percentage.

**Loss of Load Expectation (LOLE)**

A probabilistic measure of the expected frequency of system Load shed events for a given time period. LOLE is defined as the expected value of the number of days where at least one loss of Load event occurs (e.g., one day per 100 years). A loss of Load event is an hour during which firm Load, plus required minimum operating reserves, exceeds available generation capacity.

**Net Load**

The Load for a given period minus generation from PhotoVoltaic Generation Resources (PVGR) and Wind Generation Resources (WGRs) for the same period.

## 2.2 ACRONYMS AND ABBREVIATIONS

**CCT** Constraint Competitiveness Test

**CDR** Report on Capacity, Demand and Reserves in the ERCOT Region

**CEO** Chief Executive Officer

3.2.6 Report on Capacity, Demand and Reserves in the ERCOT Region

(1) ERCOT shall prepare and publish the Report on Capacity, Demand and Reserves in the ERCOT Region (CDR) twice per year. ERCOT will target the posting of the preliminary CDR during the third week of each May and the final CDR during the third week of each December. ERCOT will issue a Market Notice indicating a revised posting date if that date is anticipated to occur prior to or after the target posting week.

(2) Load and capacity forecasts shall be reported for at least the next five years beyond the year that the CDRs are published. Seasonal forecasts, as defined in Section 3.2.6.1, Planning Reserve Margins, shall also be prepared and published for each forecast year.

(3) The format and other contents of this report shall be developed by ERCOT with guidance from the Wholesale Market Subcommittee (WMS) and its working group designated to periodically review the report contents.

(4) The CDR shall provide peak Load, peak Net Load, and capacity estimates based on the methodologies in Section 3.2.6.1, Section 3.2.6.2, Effective Load Carrying Capability (ELCC) Studies, Section 3.2.6.3, Firm Peak Load and Firm Net Peak Load Estimates, and Section 3.2.6.4, Total Capacity Estimates.

3.2.6.1 Planning Reserve Margins

ERCOT shall calculate a Planning Reserve Margin (PRM) for each season of each future year reflecting Loads and resources for the forecasted peak Load hour and peak Net Load hour as follows:

**PRM *h,**s, i* = (TOTCAP *h,* s, *i* – FIRMPKLD *h,* s, *i*) / FIRMPKLD *h,* s, *i***

The above variables are defined as follows:

| Variable | Unit | Definition |
| --- | --- | --- |
| PRM ***h,*** *s, i* | % | *Planning Reserve Margin*—The Planning Reserve Margin for hour *h* of season *s* for Year *i*. |
| TOTCAP h, *s, i* | MW | *Total Capacity*—Total Capacity available for hour *h* of season *s* for the Year *i.* |
| FIRMPKLD *h,* *s, i* | MW | *Firm Peak Load*—Firm Peak Load for hour *h* of season *s* for the year *i*. |
| *h* | None | The forecasted peak Load hour and peak Net Load hour. |
| *i* | None | Year. |
| *s* | None | Season. Summer Peak Load Season, Winter Peak Load Season. |
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| [NPRR1219: Replace the variable “s” above with the following no sooner than January 1, 2025:]

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| *s* | None | Season. Summer Peak Load Season, Winter Peak Load Season, Spring (March, April, May), and Fall (October and November), for year *i*. |

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**3.2.6.2 Effective Load Carrying Capability (ELCC) Studies**

(1) ERCOT shall conduct an Effective Load Carrying Capability (ELCC) study every three years or as necessary based on reviews of expected resource penetration and generation technology trends using Generator Interconnection or Modification (GIM) data. ERCOT shall provide the appropriate WMS working group with a draft ELCC report and subsequent review and comment period before finalizing the ELCC report. The ELCC reports shall be posted to the ERCOT website.

(2) The ELCC study shall be based on the Reliability Standard established by the Public Utility Commission of Texas (PUCT).

(3) ERCOT shall use a Monte Carlo system simulation tool for determining the ELCC values.

(4) The ELCC study will determine average ELCCs for aggregate WGRs, PVGRs and ESRs by reserve risk period and applicable CDR resource regions as defined in Section 3.2.6.4, Total Capacity Estimates. Average ELCCs for aggregate ESRs shall be based on duration categories specified in the ELCC study.

(5) The ELCC study shall produce a range of ELCC values reflecting feasible future mixes of WGRs, PVGRs, ESRs and Load forecasts for the next five future years. Each CDR will include the ELCCs associated with the resource mix and load forecast for the given forecast year, season, and CDR resource region (in the case of WGRs and PVGRs).

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3.2.6.3 Firm Peak Load and Firm Peak Net Load Estimates

(1) ERCOT shall prepare, at least annually, a forecast of total hourly Loads for a minimum of ten future years using an econometric forecast, taking into account econometric inputs, weather conditions, demographic data and other variables as deemed appropriate by ERCOT. For the CDR, firm peak Load and firm peak Net Load estimates shall be determined by the following equation:

**FIRMPKLD** *h,* ***s, i* = TOTPKLD *h,* *s*, *i* – LRRRS *h*, *s, i* –LRECRS *h*,*s, i* –LRNSRS­ *h*, *s, i* – ERS *h*, *s, i* – DVR s,i - CLR *h*, *s, i***

The above variables are defined as follows:

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| Variable | Unit | Definition |
| FIRMPKLD *h,* *s, i* | MW | *Firm Peak Load Estimates*—The Firm Load forecasts for *h* Season *s* for Year *i.*  |
| TOTPKLD *h*, *s, i* | MW | *Total Peak Load Estimates*— The Firm Load forecasts for hour *h* for Season *s* for Year *i*. |
| LRRRS *h*, *s, i* | MW | *Load Resource providing RRS*—The amount of RRS a Load Resource is providing for hour *h* for Season *s* for the Year *i*. |
| LRECRS *h*, *s, i* | MW | *Load Resource providing ECRS*—The amount of ECRS a Load Resource is providing for hour *h* Season *s* for the Year *i*. |
| LRNSRS *h*, *s, i* | MW | *Load Resource providing Non-Spinning Reserve (Non-Spin)*—The estimated amount of Non-Spin that Load Resources are providing for hour *h* Season *s* for the Year *i.*  |
| ERS *h*, *s, i* | MW | *Emergency Response Service (ERS)*—The estimated amount of ERS for hour *n*, season s, and year i. For the first and subsequent forecast years, the seasonal and hourly forecast values are based on the most recent past procurements for the Standard Contract Term and ERS Time Periods during which the peak Load hour and peak Net Load hour are expected to occur. The seasonal ERS Contract Terms are as follows:

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| **Season** | **Contract Term** |
| Winter | December 1 to March 31 |
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| Summer | June 1 through September 30 |
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| ***[NPRR1219: Replace the table above with the following no sooner than January 1, 2025:]***

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| **Season** | **Contract Term** |
| Winter | December 1 to March 31 |
| Spring | April 1 through May 31 |
| Summer | June 1 through September 30 |
| Fall | October 1 through November 30 |

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Adjustments to the ERS amounts may be applied for each forecast year based on ERCOT consideration of expected program modifications, procurement methodology changes, changes in the seasonal risk assessments, and ERS time period expenditure limits.  |
| DVR *h*, s, i | MW | *Distribution Voltage Reduction*—ERCOT-directed deployment of distribution voltage reduction measures for hour *h* of season *s* of the year *i* based on reduction estimates provided by Transmission and Distribution Service Providers. |
| CLR *h*, *s, i* | MW | *Amount of Controllable Load Resource*—Estimated amount of Controllable Load Resources that is available for Dispatch by ERCOT during the current Year *i* for hour *h* and Season *s*,not already included in LRRRS, LRECRS, or LRNSRS. This value does not include Wholesale Storage Load (WSL). |
| *h* | None | The forecasted peak Load hour and forecasted peak Net Load hour. |
| *i* | None | Year. |
| *s* | None | Season. Summer Peak Load Season, Winter Peak Load Season. |
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| [NPRR1219: Replace the variable “s” above with the following no sooner than January 1, 2025:]

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| *s* | None | Season. Summer Peak Load Season, Winter Peak Load Season, Spring (March, April, May), and Fall (October and November), for year *i*. |

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(2) The CDR shall also provide the estimated annual peak Load reduction amounts reflected in the firm peak Load forecast due to energy efficiency programs procured by Transmission and/or Distribution Service Providers (TDSPs) pursuant to P.U.C. Subst. R. 25.181, Energy Efficiency Goal, for Year *i.* ERCOT will also include energy efficiency and/or Demand response initiatives reported by NOIEs.

## 3.2.6.4 Total Capacity Estimates

(1) Total capacity estimates will be based on generation availability at the time of the forecasted peak Load hour and peak Net Load hour for each future season and year.

(2) The total capacity estimates shall be determined based on the following equation:

**TOTCAP *h,* *s ,i* = INSTTHERMCAP *s*, *i +* PUNCAP *p,* *s, i +* WINDCAP *p,* *s, i, wr* + HYDROCAP *p,* *s, i* + SOLARCAP *p,* *s,*** ***i, sr* + ESRCAP *p, s, i* + RMRCAP *s,*** ***i* + DCTIECAP *s* + PLANDCTIECAP** *s* **+ SWITCHCAP *s, i* + MOTHCAP *s, i* + PLANTHERMCAP *s, i* + PLANWINDCAP *p,* *s, i, wr* + PLANSOLARCAP *p,* *s, i, sr* + PLANESRCAP** *p, s, i*  **– LTOUTAGE *s, i* – UNSWITCH *s, i* – RETCAPNSO *s, i* – RETCAPUNC *s, i***

The above variables are defined as follows:

| Variable | Unit | Definition |
| --- | --- | --- |
| TOTCAP *h,* *s, i* | MW | *Total Capacity*—Estimated total capacity available during the peak Load hour and peak Net Load hour for Season *s* for the year *i.* |
| INSTTHERMCAP *s, i* | MW | *Seasonal Net Max Sustainable Rating for each Thermal Generation Resource*—The Seasonal net maximum sustainable rating for Season *s* as reported in the Resource Integration and Ongoing Operations (RIOO) system for each thermal operating Generation Resource for the Year *i* excluding Resources operating under RMR Agreements, Mothballed Generation Resources, and Generation Resources capable of “switching” from the ERCOT Region to a non-ERCOT Region. For thermal generation resources classified as small generators in accordance with paragraph (3) of Planning Guide Section 5.2.1, Applicability, capacity is considered operational once a Model Ready Date has been assigned to the resource. |
| PUNCAP *h,* *s, i* | MW | *Private Use Network Capacity*—The forecasted generation capacity available to the ERCOT Transmission Grid, net of self-serve load, from Generation Resources and Settlement Only Generators (SOGs) in Private Use Networks for hour *h*, Season *s* and year *i*. The capacity forecasts are developed as follows. First, a base capacity forecast, determined from SCED data, is calculated as the average net generation capacity available to the ERCOT Transmission Grid during the 20 highest system-wide peak Load and peak Net Load hours for each preceding three-year period for Season *s* and year *i*. The base capacity forecast is then adjusted by adding the aggregated incremental forecasted annual changes in net generation capacity as of the start of Season *s* for forecast Year *i* reported for Private Use Networks pursuant to Section 10.3.2.4, Reporting of Net Generation Capacity. This calculation is limited to Generation Resources and SOGs in Private Use Networks (1) with a Resource Commissioning Date that occurs no later than the start of the most current Season used for the calculation, and (2) that have not been permanently retired by the start of the most current Season used for the calculation. |
| HYDROCAP *p*, *s, i* | MW | *Hydro Unit Capacity*—The average hydro Generation Resource capacity available, as determined from SCED data during the highest 20 peak Load hours for each preceding three-year period for Reserve Risk Period *p*, Season *s* and year *i*. This calculation is limited to hydro Generation Resources (1) with a Resource Commissioning Date that occurs no later than the start of the most current Peak Load Season used for the calculation, and (2) that have not been permanently retired by the start of the most current Peak Load Season used for the calculation. |
| WINDELCC *p, s, i, wr* | % | *Effective Load Carrying Capability (ELCC) for Wind*—The average ELCC for all WGRs for Reserve Risk Period *p*, Season *s*, year *i*, and region *wr*, expressed as a percentage. |
| WINDCAP *p,* *s, i, wr* | MW | *Existing WGR Capacity*—The amount of currently operational WGRs for Reserve Risk Period *p*, Season *s,* year *i*, and region *wr*, multiplied by WINDELCC *p*, *s*, *i*, wr. Capacity is considered operational if it has an ERCOT Resource Commissioning Date or ERCOT has approved, or expects to approve, the capacity for grid synchronization by the start of Season *s* for Year *i*. For wind resources classified as small generators in accordance with paragraph (3) of Planning Guide Section 5.2.1, capacity is considered operational once a Model Ready Date has been assigned to the resource. |
| SOLARELCC *p, s, i, sr* | % | *Effective Load Carrying Capability (ELCC) for Solar*—The average ELCC for Reserve Risk Period *p*, Season *s*, Year *i*, and Region s*r*, expressed as a percentage. |
| SOLARCAP *p, s, i, sr* | MW | *Available PVGR and Small Generator Capacity*—The amount of PVGR capacity that is currently operational for Reserve Risk Period *p*, Season *s,* Year *i*, and Region *sr*, multiplied by SOLARELCC *p,* *s, i, sr*. Capacity is considered operational if it has an ERCOT Resource Commissioning Date or ERCOT has approved, or expects to approve, the capacity for grid synchronization by the start of Season *s* for Year *i*. For solar resources classified as small generators in accordance with paragraph (3) of Planning Guide Section 5.2.1, capacity is considered operational once a Model Ready Date has been assigned to the resource. |
| ESRELCC *p, s, i* | % | *Effective Load Carrying Capability (ELCC) for Energy Storage Resources (ESRs)*—The average ELCC for Reserve Risk Period *p*, Season *s*, and Year *i*, expressed as a percentage. |
| ESRCAP *p, s, i* | % | *Available ESR Capacity*—The amount of ESR capacity by Reserve Risk Period p, Season *s*, and Year i that is currently operational, multiplied by ESRELCC *p, r, s, i.* Capacity is considered operational if it has an ERCOT Resource Commissioning Date or ERCOT has approved, or expects to approve, the capacity for grid synchronization by the start of Season *s* for Year *i*. For ESRs classified as small generators in accordance with paragraph (3) of Planning Guide Section 5.2.1, capacity is considered operational once a Model Ready Date has been assigned to the resource. |
| RMRCAP *s, i* | MW | *Seasonal Net Max Sustainable Rating for Generation Resource providing RMR Service*—The Seasonal net maximum sustainable rating for Season *s* as reported in the RIOO system for each Generation Resource providing RMR Service for the Year *i* until the approved exit strategy for the RMR Resource is expected to be completed. |
| DCTIEPEAKPCT *s* | % | *Seasonal Net Import Capacity for existing DC Tie Resources as a Percent of Installed DC Tie Capacity*—The average net emergency DC Tie imports for Season *s*, divided by the total installed DC Tie capacity for Season *s*, expressed as a percentage. The average net emergency DC Tie imports is calculated for the SCED intervals during which ERCOT declared an Energy Emergency Alert (EEA). This calculation is limited to the most recent Seasons in which an EEA was declared. For the spring and fall seasons ERCOT will use the winter and summer values, respectively, if no EEA events have occurred for these seasons. The total installed DC Tie capacity is the capacity amount at the start of the Seasons used for calculating the net DC Tie imports. |
| DCTIECAP *s* | MW | *Expected Existing DC Tie Capacity Available under Emergency Conditions*—DCTIEPEAKPCT*s* multiplied by the installed DC Tie capacity available for Season *s*, adjusted for any known capacity transfer limitations. |
| PLANDCTIECAP *s* | MW | *Expected Planned DC Tie Capacity Available under Emergency Conditions*—DCTIEPEAKPCT*s* multiplied by the maximum peak import capacity of planned DC Tie projects included in the most recent Steady State Working Group (SSWG) base cases, for Season *s*. The import capacity may be adjusted to reflect known capacity transfer limitations indicated by transmission studies. |
| SWITCHCAP *s, i* | MW | *Seasonal Net Max Sustainable Rating for Switchable Generation Resources*—The Seasonal net maximum sustainable rating for Season *s* as reported in the RIOO system for each Generation Resource for Year *i* that can electrically connect (i.e., “switch”) from the ERCOT Region to another power region. |
| MOTHCAP *s, i* | MW | *Seasonal Net Max Sustainable Rating for Mothballed Generation Resource*—The Seasonal net maximum sustainable rating for Season *s* as reported in the RIOO system for each Mothballed Generation Resource for y Year *i* based on the lead time and probability information furnished by the owners of Mothballed Generation Resources pursuant to Section 3.14.1.9, Generation Resource Status Updates.If the value furnished by the owner of a Mothballed Generation Resource pursuant to Section 3.14.1.9 is greater than or equal to 75%, then use the Seasonal net maximum sustainable rating for Season *s* as reported in the RIOO system for the Mothballed Generation Resource for Year *i*. If the value furnished by the owner of a Mothballed Generation Resource pursuant to Section 3.14.1.9 is less than 75%, then exclude that Resource from the Total Capacity Estimate. |
| PLANTHERMCAP *s, i* | MW | *New Thermal Generating Capacity*—The amount of new thermal generating capacity available by the start of Season s and Year *i* that: (a) has a Texas Commission on Environmental Quality (TCEQ)-approved air permit, (b) has a federal Greenhouse Gas permit, if required, (c) has obtained water rights, contracts or groundwater supplies sufficient for the generation of electricity at the Resource, (d) has a signed Standard Generation Interconnection Agreement (SGIA), or a public, financially-binding agreement between the Resource owner and TSP under which generation interconnection facilities would be constructed; or for a Municipally Owned Utility (MOU) or Electric Cooperative (EC), a public commitment letter to construct a new Resource, (e) a written notice from the TSP that the Interconnecting Entity has provided notice to proceed with the construction of the interconnection, and (f) provided the TSP with sufficient financial security to fund the interconnection facilities. New, Thermal generating capacity is excluded if the Generation Interconnection or Modification (GIM) project status in the RIOO interconnection services system is set to “Cancelled” or “Inactive” or if the Resource was previously mothballed or retired and does not have an owner that intends to operate it. For the purposes of this section, ownership of a mothballed or retired Resource for which a new generation interconnection is sought can only be satisfied by proof of site control as described in paragraph (1)(a), (b), or (d) of Planning Guide Section 5.3.2.1, Proof of Site Control. Thermal resources classified as small generators in accordance with paragraph (3) of Planning Guide Section 5.2.1 must have an ERCOT-assigned Model Ready Date. |
| PLANWINDCAP *p, s, i, wr* |  | *New WGR Capacity*—For new WGRs, the capacity available by the start of Season *s*, Reserve Risk Period *p*, Year *i*, and region *wr*, multiplied by WINDELCC for season *s* for Reserve Risk Period *p*,year *i*, and Region *wr*. New WGRs must have (1) an SGIA or other public, financially binding agreement between the Resource owner and TSP under which generation interconnection facilities would be constructed or, for a MOU or EC, a public commitment letter to construct a new WGR, (2) a written notice from the TSP that the IE has provided notice to proceed with the construction of the interconnection, and (3) provided the TSP with sufficient financial security to fund the interconnection facilities. Wind resources classified as small generators in accordance with paragraph (3) of Planning Guide Section 5.2.1 must have an ERCOT-assigned Model Ready Date. |
| PLANSOLARCAP *p, s, i, sr* |  | *New PVGR Capacity*—For new PVGRs, the capacity available by the start of season *s* for Risk Period *p*, Year *i*, and region *sr*, multiplied by SOLARELCC *p*, *s*, *i*, *sr*. New PVGRs must have (1) an SGIA or other public, financially binding agreement between the Resource owner and TSP under which generation interconnection facilities would be constructed or, for a MOU or EC, a public commitment letter to construct a new WGR, (2) a written notice from the TSP that the IE has provided notice to proceed with the construction of the interconnection, and (3) provided the TSP with sufficient financial security to fund the interconnection facilities. Solar resources classified as small generators in accordance with paragraph (3) of Planning Guide Section 5.2.1 must have an ERCOT-assigned Model Ready Date. |
| PLANESRCAP *p, s, i* | MW | *Available Energy Storage Resource Capacity*—The amount of ESR capacity that ERCOT has approved, or expects to approve, for grid synchronization by the start of season *s* for Reserve Risk Period *p* and Year *i*, multiplied by ERSELCC *p,* *s, i.* |
| LTOUTAGE *s, i* | MW | *Forced Outage Capacity Reported in a Notification of Suspension of Operations—*For Generation Resources whose operation has been suspended due to a Forced Outage as reported in a Notification of Suspension of Operations (NSO), the sum of Seasonal net maximum sustainable ratings for Season *s* and Year *i*, as reported in the NSO forms. For Inverter Based Resources use WINDCAP, SOLARCAP, and ESRCAP rather than ratings reported in NSOs. |
| UNSWITCH *s, i*  | MW | *Capacity of Unavailable Switchable Generation Resource*—The amount of capacity reported by the owners of a switchable Generation Resource that will be unavailable to ERCOT during Season *s* and Year *i* pursuant to paragraph (2) of Section 16.5.4, Maintaining and Updating Resource Entity Information. |
| RETCAPNSO *s, i* | MW | *Capacity Pending Retirement*—The amount of capacity in Season *s* of Year *i* that is pending retirement based on information submitted on an NSO form (Section 22, Attachment E, Notification of Suspension of Operations) pursuant to Section 3.14.1.11, Budgeting Eligible Costs, but is under review by ERCOT pursuant to Section 3.14.1.2, ERCOT Evaluation Process, that has not otherwise been considered in any of the above defined categories. For Generation Resources and SOGs within Private Use Networks, the retired capacity amount is deducted from PUNCAP.  |
| RETCAPUNC *s, i* | MW | *Unconfirmed Planned Retirements*—The capacity of Generation Resources for which a public announcement of the intent to permanently shut the unit down has been released, but a Notice of Suspension of Operations for the unit has not been received by ERCOT. To be considered an Unconfirmed Planned Retirement, the Generation Resource must meet the following criteria: (1) a specific retirement date is cited in the announcement, or other timing information is given that indicates the unit will be unavailable as of the start of Season *s* for Year *i*, and (2) the announcement, with follow-up inquiry by ERCOT, does not indicate that retirement timing is highly speculative. |
| *p* | None | Reserve Risk Period. The range of consecutive hours having the highest risk of operating reserve shortages for each season as determined by an ELCC study per Section 3.2.6.2. |
| *i* | None | Year. |
| *s* | None | Season. Summer (June through September)Winter (December through February) |
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| [NPRR1219: Replace the variable “s” above with the following no sooner than January 1, 2025:]

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| *s* | None | Season. Spring (March through May)Summer (June through September)Fall (October through November)Winter (December through February) |

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| *sr* | None | West, Far West, and Other solar regions. PVGRs are classified into regions based on the county that contains their Point of Interconnection Bus (POIB). The West region is defined as the following counties: Archer, Armstrong, Bailey, Baylor, Borden, Briscoe, Callahan, Carson, Castro, Childress, Clay, Cochran, Coke, Coleman, Collingsworth, Concho, Cottle, Crockett, Crosby, Dallam, Dawson, Deaf Smith, Dickens, Donley, Fisher, Floyd, Foard, Garza, Glasscock, Gray, Hale, Hall, Hansford, Hardeman, Hartley, Haskell, Hockley, Howard, Hutchinson, Irion, Jones, Kent, King, Knox, Lamb, Lipscomb, Lubbock, Lynn, Martin, Menard, Mitchell, Moore, Motley, Nolan, Ochiltree, Oldham, Parmer, Potter, Randall, Reagan, Roberts, Runnels, Schleicher, Scurry, Shackelford, Sherman, Sterling, Stonewall, Sutton, Swisher, Taylor, Terry, Throckmorton, Tom Green, Val Verde, Wheeler, Wichita.The Far West region is defined as the following counties: Andrews, Brewster, Crane, Culberson, Ector, El Paso, Gaines, Hudspeth, Jeff Davis, Loving, Midland, Pecos, Presidio, Reeves, Terrell, Upton, Ward, Winkler, Yoakum. The Other solar region consists of all other counties in the ERCOT Region. |
| *wr* | None | Coastal, Panhandle, and Other wind regions. WGRs are classified into regions based on the county that contains their Point of Interconnection Bus (POIB). The Coastal region is defined as the following counties: Aransas, Brazoria, Calhoun, Cameron, Kenedy, Kleberg, Matagorda, Nueces, Refugio, San Patricio, and Willacy. The Panhandle region is defined as the following counties: Armstrong, Bailey, Briscoe, Carson, Castro, Childress, Cochran, Collingsworth, Crosby, Dallam, Deaf Smith, Dickens, Donley, Floyd, Gray, Hale, Hall, Hansford, Hartley, Hemphill, Hockley, Hutchinson, Lamb, Lipscomb, Lubbock, Moore, Motley, Ochiltree, Oldham, Parmer, Potter, Randall, Roberts, Sherman, Swisher, and Wheeler.The Other region consists of all other counties in the ERCOT Region. |

16.5.4 Maintaining and Updating Resource Entity Information

(1) Each Resource Entity must timely update information the Resource Entity provided to ERCOT in the application process, and a Resource Entity must promptly respond to any reasonable request by ERCOT for updated information regarding the Resource Entity or the information provided to ERCOT by the Resource Entity, including:

(a) The Resource Entity’s addresses;

(b) A list of Affiliates; and

(c) Designation of the Resource Entity’s officers, directors, Authorized Representatives, and USA (all per the Resource Entity application) including the telephone and e-mail addresses for those persons.

(2) A Resource Entity that has a Switchable Generation Resource (SWGR) shall submit a report to ERCOT in writing indicating whether or not it has any contractual requirement in a non-ERCOT Control Area during the summer or winter Peak Load Seasons which may cause the identified capacity to not be available to the ERCOT System for the subsequent ten years. The initial communication and subsequent updates to previously reported unavailable capacity shall be filed with ERCOT as soon as possible, but in no event later than ten Business Days after the information is obtained. The communications should reflect the Resource Entity’s best estimate of the required information at the time the filing is made. ERCOT shall use the provided data for preparation of the Report on Capacity, Demand and Reserves in the ERCOT Region and other planning purposes.

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| ***[NPRR1219: Replace paragraph (2) above with the following no sooner than January 1, 2025:]***(2) A Resource Entity that has a Switchable Generation Resource (SWGR) shall submit a report to ERCOT in writing indicating whether or not it has any contractual requirement in a non-ERCOT Control Area for each season as defined in Section 3.2.6.4, Total Capacity Estimates, which may cause the identified capacity to not be available to the ERCOT System for the subsequent ten years. The initial communication and subsequent updates to previously reported unavailable capacity shall be filed with ERCOT as soon as possible, but in no event later than ten Business Days after the information is obtained. The communications should reflect the Resource Entity’s best estimate of the required information at the time the filing is made. ERCOT shall use the provided data for preparation of the Report on Capacity, Demand and Reserves in the ERCOT Region and other planning purposes. The SWGR information reporting form is located on the ERCOT website. |