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| NPRR Number | [1238](https://www.ercot.com/mktrules/issues/NPRR1238) | NPRR Title | Voluntary Registration of Loads with Curtailable Load Capabilities |
|  | |  | |
| Date Posted | | October 1, 2024 | |
|  | |  | |
| **Submitter’s Information** | | | |
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| Company | | ERCOT | |
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| Market Segment | |  | |

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| Comments |

ERCOT submits these comments associated with Voluntary Early Curtailment Loads (VECLs) as proposed by Golden Spread Electric Cooperative (GSEC) in Nodal Protocol Revision Request (NPRR) 1238.

ERCOT supports the need for the NPRR and ERCOT agrees with the ONCOR comments and submits these comments on top of the ONCOR comments.

In addition to those comments ERCOT adds in additional edits in section 6.5.9.4.1 to align with NPRR-1217 changes.

ERCOT has added to the information provided by the customer in the forms to align with data it is already collecting for use in the interim voluntary load curtailment program. These fields allow ERCOT to identify and track the loads participating in the program and monitor the total available load for situational awareness and deployment as necessary.

ERCOT has included acknowledgement for the Customer, QSE, ERCOT TO and the TDSP. This is to coordinate which loads are the responsibility of each party and therefore the acknowledgment is to allow all parties with obligations towards load curtailment to be aware when changes might impact their obligations.

ERCOT additionally supports the ONCOR comments which add clarity to process in the event the VECL cant interrupt and the back up TO or QSE is instructed to disconnect the load. ERCOT supports the registration changes to allow the Transmission Operator TO and the TDSP to be included in the registration form so that they are aware of the load being removed from the TOs load shed and also so the TO is informed of the VECL in the event they have to interrupt the VECL as a backup to the QSE.

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| **Revised Cover Page Language** |

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| --- | --- |
| Nodal Protocol Sections Requiring Revision | 2.1, Definitions  2.2, Acronyms and Abbreviations  3.2.6.2.1, Peak Load Estimate  6.5.7.3.1, Determination of Real-Time On-Line Reliability Deployment Price Adder  6.5.9.4.1, General Procedures Prior to EEA Operations  16.20, Designation of a Qualified Scheduling Entity by a Voluntary Early Curtailment Load (new)  23, Form T, Qualified Scheduling Entity, Transmission Operator, and Transmission and/or Distribution Service Provider(s) Acknowledgment of Designation for Customer with Large Load (new) |

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| Revised Proposed Guide Language |

## 2.1 DEFINITIONS

**Voluntary Early Curtailment Load (VECL)**

A Load interconnected to the ERCOT System in which the Customer has registered with ERCOT that the Load will curtail in response to an ERCOT instruction to maintain system reliability. The Load does not receive instructions from Security-Constrained Economic Dispatch (SCED) and is not a Load Resource.

## 2.2 ACRONYMS AND ABBREVIATIONS

**VECL** Voluntary Early Curtailment Load

***3.2.6.2.1 Peak Load Estimate***

(1) ERCOT shall prepare, at least annually, a forecast of the total peak Load for both summer and winter Peak Load Seasons for the current year and 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. The firm Peak Load Season estimate shall be determined by the following equation:

**FIRMPKLD *s, i* = TOTPKLD s, *i* – LRRRS *s, i* –LRECRS *s, i* –LRNSRS­ *s, i* – ERS *s, i* – CLR *s, i* – NFIRMLL *s, i* – ENERGYEFF *s, i***

The above variables are defined as follows:

|  |  |  |
| --- | --- | --- |
| **Variable** | **Unit** | **Definition** |
| FIRMPKLD *s, i* | MW | *Firm Peak Load Estimate*—The Firm Peak Load Estimate for the Peak Load Season *s* for the year *i.* |
| TOTPKLD *s, i* | MW | *Total Peak Load Estimate*—The Total Peak Load Estimate for the Peak Load Season *s* for the year *i.* |
| LRRRS *s, i* | MW | *Load Resource providing RRS*—The amount of RRS a Load Resource is providing for the Peak Load Season *s* for the year *i*. |
| LRECRS *s, i* | MW | *Load Resource providing ECRS*—The amount of ECRS a Load Resource is providing for the Peak Load Season *s* for the year *i*. |
| LRNSRS *s, i* | MW | *Load Resource providing Non-Spinning Reserve (Non-Spin)*—The estimated amount of Non-Spin that Load Resources are providing for the Peak Load Season *s* for the year *i.* |
| ERS *s, i* | MW | *Emergency Response Service (ERS)*—The estimated amount of ERS for the Peak Load Season *s* for the year *i* calculated as follows:   |  |  |  | | --- | --- | --- | | **Year (i)** | **Winter Peak Load** | **Summer Peak Load** | | Current Year (i = 1) | The simple average of the amount of ERS procured by ERCOT for the current year Standard Contract Term of December 1 to March 31 for the ERS Time Periods covering all or any part of Hour Ending 0600 and Hour Ending 1800. | The amount of ERS procured by ERCOT for the current year Standard Contract Term of June 1 through September 30 for an ERS Time Period covering all or any part of Hour Ending 1800. | | Second Year (i = 2) | The current year Winter Peak Load ERS amount escalated by the compound annual growth rate of the three Winter Peak Load ERS amounts preceding the current year. | The current year Summer Peak Load ERS amount escalated by the compound annual growth rate of the three Summer Peak Load ERS amounts preceding the current period. | | Third Year (i = 3) | The second year Winter Peak Load ERS amount escalated by the compound annual growth rate of the three Winter Peak Load ERS amounts preceding the current year. | The second year Summer Peak Load ERS amount escalated by the compound annual growth rate of the three Summer Peak Load ERS amounts preceding the current year. | | Years after Third Year (i > 3) | Equal to third year amount. | Equal to third year amount. | |
| CLR *s, i* | MW | *Amount of Controllable Load Resource*—Estimated amount of Controllable Load Resource that is available for Dispatch by ERCOT during the current year *i* for the Peak Load Season *s* not already included in LRRRS, LRECRS, or LRNSRS. This value does not include Wholesale Storage Load (WSL). |
| NFIRMLL *s, i* | MW | *Amount of Non-Firm Large Loads*—Estimated amount of non-netted large Load that is not already included in CLR, LRRRS, or LRNSRS. |
| ENERGYEFF *s, i* | MW | *Amount of Energy Efficiency Programs Procured*—Estimated amount of 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 the Peak Load Season *s* for the year *i.* ERCOT may also consider any energy efficiency and/or Demand response initiatives reported by NOIEs. |
| *i* | None | Year. |
| *s* | None | Peak Load Season. |

**6.5.7.3.1Determination of Real-Time On-Line Reliability Deployment Price Adder**

(1) The following categories of reliability deployments are considered in the determination of the Real-Time On-Line Reliability Deployment Price Adder:

(a) RUC-committed Resources, except for those whose QSEs have opted out of RUC Settlement in accordance with paragraph (14) of Section 5.5.2, Reliability Unit Commitment (RUC) Process;

(b) RMR Resources that are On-Line, including capacity secured to prevent an Emergency Condition pursuant to paragraph (4) of Section 6.5.1.1, ERCOT Control Area Authority;

(c) Deployed Load Resources other than Controllable Load Resources;

(d) Deployed ERS;

(e) Real-Time DC Tie imports during an EEA where the total adjustment shall not exceed 1,250 MW in a single interval;

(f) Real-Time DC Tie exports to address emergency conditions in the receiving electric grid;

(g) Energy delivered to ERCOT through registered Block Load Transfers (BLTs) during an EEA;

(h) Energy delivered from ERCOT to another power pool through registered BLTs during emergency conditions in the receiving electric grid;

(i) Deployed Voluntary Early Curtailment Load (VECL), as described in paragraph (2) of Section 6.5.9.4.1, General Procedures Prior to EEA Operations; and

(j) ERCOT-directed firm Load shed during EEA Level 3, as described in paragraph (3) of Section 6.5.9.4.2, EEA Levels.

(2) The Real-Time On-Line Reliability Deployment Price Adder is an estimation of the impact to energy prices due to the above categories of reliability deployments. For intervals where there are reliability deployments as described in paragraph (1) above, after the two-step SCED process and also after the Real-Time On-Line Reserve Price Adder and Real-Time Off-Line Reserve Price Adder have been determined, the Real-Time On-Line Reliability Deployment Price Adder is determined as follows:

(a) For RUC-committed Resources with a telemetered Resource Status of ONRUC and for RMR Resources that are On-Line, set the LSL, LASL, and LDL to zero.

(b) Notwithstanding item (a) above, for RUC-committed Combined Cycle Generation Resources with a telemetered Resource Status of ONRUC that were instructed by ERCOT to transition to a different configuration to provide additional capacity, set the LSL, LASL, and LDL equal to the minimum of their current value and the COP HSL of the QSE-committed configuration for the RUC hour at the snapshot time of the RUC instruction.

(c) For all other Generation Resources excluding ones with a telemetered status of ONRUC, ONTEST, STARTUP, SHUTDOWN, and also excluding RMR Resources that are On-Line and excluding Generation Resources with a telemetered output less than 95% of LSL:

(i) Set LDL to the greater of Aggregated Resource Output - (60 minutes \* SCED Down Ramp Rate), or LASL; and

(ii) Set HDL to the lesser of Aggregated Resource Output + (60 minutes\*SCED Up Ramp Rate), or HASL.

(d) For all Controllable Load Resources excluding ones with a telemetered status of OUTL:

(i) Set LDL to the greater of Aggregated Resource Output - (60 minutes \* SCED Up Ramp Rate), or LASL; and

(ii) Set HDL to the lesser of Aggregated Resource Output + (60 minutes\*SCED Down Ramp Rate), or HASL.

(e) Add the deployed MW from Load Resources that are not Controllable Load Resources and that are providing RRS or ECRS to GTBD linearly ramped over the ten-minute ramp period and add the deployed MW from Load Resources that are not Controllable Load Resources providing Non-Spin to GTBD linearly ramped over the 30-minute ramp period. The amount of deployed MW is calculated from the Resource telemetry and from applicable deployment instructions in Extensible Markup Language (XML) messages. ERCOT shall generate a linear bid curve defined by a price/quantity pair of $300/MWh for the first MW of Load Resources deployed and a price/quantity pair of $700/MWh for the last MW of Load Resources deployed in each SCED execution. After recall instruction, the restoration period length and amount of MW added to GTBD during the restoration period will be determined by validated telemetry and the type of Ancillary Service deployed from the Resource. The TAC shall review the validity of the prices for the bid curve at least annually.

(f) Add the deployed MW from VECL to GTBD linearly ramped over a 30-minute ramp period. The amount of deployed MW is calculated from the applicable deployment instructions in XML messages. ERCOT shall generate a linear bid curve defined by a price/quantity pair of $300/MWh for the first MW of VECL deployed and a price/quantity pair of $700/MWh for the last MW of VECL deployed in each SCED execution. After recall instruction, GTBD shall be adjusted to reflect restoration on a linear curve over a one-hour restoration period.

(g) Add the deployed MW from ERS to GTBD. The amount of deployed MW is determined from the XML messages and ERS contracted capacities for the ERS Time Periods when ERS is deployed. After recall, an approximation of the amount of un-restored ERS shall be used. After ERCOT recalls each group, GTBD shall be adjusted to reflect restoration on a linear curve over the assumed restoration period (“RHours”).

The above parameter is defined as follows:

| **Parameter** | **Unit** | **Current Value\*** |
| --- | --- | --- |
| Rhours | Hours | 4.5 |
| \* Changes to the current value of the parameter(s) referenced in this table above may be recommended by TAC and approved by the ERCOT Board. ERCOT shall update parameter values on the first day of the month following ERCOT Board approval unless otherwise directed by the ERCOT Board. ERCOT shall provide a Market Notice prior to implementation of a revised parameter value. | | |

(h) Add the MW from Real-Time DC Tie imports during an EEA to GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the ERCOT Operator.

(i) Subtract the MW from Real-Time DC Tie exports to address emergency conditions in the receiving electric grid from GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the receiving grid operator.

(j) Add the MW from energy delivered to ERCOT through registered BLTs during an EEA to GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the ERCOT Operator.

(k) Subtract the MW from energy delivered from ERCOT to another power pool through registered BLTs during emergency conditions in the receiving electric grid from GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the receiving grid operator.

(l) Perform a SCED with changes to the inputs in items (a) through (k) above, considering only Competitive Constraints and the non-mitigated Energy Offer Curves.

(m) Perform mitigation on the submitted Energy Offer Curves using the LMPs from the previous step as the reference LMP.

(n) Perform a SCED with the changes to the inputs in items (a) through (k) above, considering both Competitive and Non-Competitive Constraints and the mitigated Energy offer Curves.

(o) Determine the positive difference between the System Lambda from item (n) above and the System Lambda of the second step in the two-step SCED process described in paragraph (10)(b) of Section 6.5.7.3, Security Constrained Economic Dispatch.

(p) Determine the amount given by the Value of Lost Load (VOLL) minus the sum of the System Lambda of the second step in the two step SCED process described in paragraph (10)(b) of Section 6.5.7.3 and the Real-Time On-Line Reserve Price Adder.

(q) The Real-Time On-Line Reliability Deployment Price Adder is the minimum of items (o) and (p) above except when ERCOT is directing firm Load shed during EEA Level 3. When ERCOT is directing firm Load shed during EEA Level 3 to either maintain sufficient PRC or stabilize grid frequency, as described in paragraph (3) of Section 6.5.9.4.2, the Real-Time On-Line Reliability Deployment Price Adder is the VOLL minus the sum of the System Lambda of the second step in the two-step SCED process described in paragraph (10)(b) of Section 6.5.7.3 and the Real-Time On-Line Reserve Price Adder. Once ERCOT is no longer directing firm Load shed, as described above, the Real-Time On-Line Reliability Deployment Price Adder will again be set as the minimum of items (o) and (p) above.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***[NPRR904, NPRR1006, NPRR1010, NPRR1014, NPRR1091, and NPRR1105: Replace applicable portions of Section 6.5.7.3.1 above with the following upon system implementation for NPRR904, NPRR1006, NPRR1014, NPRR1091, or NPRR1105; or upon system implementation of the Real-Time Co-Optimization (RTC) project for NPRR1010:]***  **6.5.7.3.1Determination of Real-Time Reliability Deployment Price Adder**  (1) The following categories of reliability deployments are considered in the determination of the Real-Time Reliability Deployment Price Adder for Energy, and the Real-Time Reliability Deployment Price Adders for Ancillary Services:  (a) RUC-committed Resources, except for those whose QSEs have opted out of RUC Settlement in accordance with paragraph (14) of Section 5.5.2, Reliability Unit Commitment (RUC) Process;  (b) RMR Resources that are On-Line, including capacity secured to prevent an Emergency Condition pursuant to paragraph (4) of Section 6.5.1.1, ERCOT Control Area Authority;  (c) Deployed Load Resources other than Controllable Load Resources;  (d) Deployed ERS;  (e) ERCOT-directed DC Tie imports during an EEA or transmission emergency where the total adjustment shall not exceed 1,250 MW in a single interval;  (f) ERCOT-directed curtailment of DC Tie imports below the higher of DC Tie advisory import limit as of 0600 in the Day-Ahead or subsequent advisory import limit to address local transmission system limitations where the total adjustment shall not exceed 1,250 MW in a single interval;  (g) ERCOT-directed curtailment of DC Tie imports below the higher of DC Tie advisory import limit as of 0600 in the Day-Ahead or subsequent advisory import limit due to an emergency action by a neighboring system operator during an emergency that is accommodated by ERCOT where the total adjustment shall not exceed 1,250 MW in a single interval;  (h) ERCOT-directed DC Tie exports to address emergency conditions in the receiving electric grid where the total adjustment shall not exceed 1,250 MW in a single interval;  (i) ERCOT-directed curtailment of DC Tie exports below the DC Tie advisory export limit as of 0600 in the Day-Ahead or subsequent advisory export limit during EEA, a transmission emergency, or to address local transmission system limitations where the total adjustment shall not exceed 1,250 MW in a single interval;  (j) Energy delivered to ERCOT through registered Block Load Transfers (BLTs) during an EEA;  (k) Energy delivered from ERCOT to another power pool through registered BLTs during emergency conditions in the receiving electric grid;  (l) ERCOT-directed deployment of TDSP standard offer Load management programs;  (m) ERCOT-directed deployment of distribution voltage reduction measures;  (n) ERCOT-directed deployment of Off-Line Non-Spin; and  (o) Deployed Voluntary Early Curtailment Load (VECL) as described in paragraph (2) of Section 6.5.9.4.1, General Procedures Prior to EEA Operations.  (2) The Real-Time Reliability Deployment Price Adder for Energy, and Real-Time Reliability Deployment Price Adders for Ancillary Services are estimations of the impact to energy prices and Real-Time MCPCs due to the above categories of reliability deployments. For intervals where there are reliability deployments as described in paragraph (1) above, the Real-Time Reliability Deployment Price Adder for Energy and Real-Time Reliability Deployment Price Adders for Ancillary Services are determined as follows:  (a) For Off-Line Non-Spin Resources that are brought On-Line by ERCOT deployment instruction, RUC-committed Resources with a telemetered Resource Status of ONRUC and for RMR Resources that are On-Line:  (i) Set the LSL and LDL to zero;  (ii) Remove all Ancillary Service Offers; and  (iii) For the first step of SCED, administratively set the Energy Offer Curve for the Resource at a value equal to the power balance penalty price for all capacity between 0 MW and the HSL of the Resource.  (b) Notwithstanding item (a) above, for RUC-committed Combined Cycle Generation Resources with a telemetered Resource Status of ONRUC that were instructed by ERCOT to transition to a different configuration to provide additional capacity:  (i) Set the LSL and LDL equal to the minimum of their current value and the COP HSL of the QSE-committed configuration for the RUC hour at the snapshot time of the RUC instruction;  (ii) Set the maximum Ancillary Service capabilities of the Resource equal to the minimum of their current value and COP Ancillary Service capabilities of the QSE-committed configuration for the RUC hour at the snapshot time of the RUC instruction; and  (iii) For the first step of SCED, administratively set the Energy Offer Curve for the Resource at a value equal to the power balance penalty price for the additional capacity of the Resource, defined as the positive difference between the Resource’s current telemetered HSL and the COP HSL of the QSE-committed configuration for the RUC hour at the snapshot time of the RUC instruction.  (c) For all other Generation Resources excluding ones with a telemetered status of ONRUC, ONTEST, STARTUP, SHUTDOWN, and also excluding RMR Resources that are On-Line and excluding Generation Resources with a telemetered output less than 95% of LSL:  (i) If the Generation Resource SCED Base Point is not at LDL, set LDL to the greater of Aggregated Resource Output - (60 minutes \* Normal Ramp Rate down), or LSL; and  (ii) If the Generation Resource SCED Base Point is not at HDL, set HDL to the lesser of Aggregated Resource Output + (60 minutes \* Normal Ramp Rate up), or HSL.  (d) For all On-Line ESRs:  (i) If the ESR SCED Base Point is not at LDL, set LDL to the greater of Aggregated Resource Output - (60 minutes \* Normal Ramp Rate down), or LSL; and  (ii) If the ESR SCED Base Point is not at HDL, set HDL to the lesser of Aggregated Resource Output + (60 minutes \* Normal Ramp Rate up), or HSL.  (e) For all Controllable Load Resources excluding ones with a telemetered status of OUTL:  (i) If the Controllable Load Resource SCED Base Point is not at LDL, set LDL to the greater of Aggregated Resource Output - (60 minutes \* Normal Ramp Rate down), or LSL; and  (ii) If the Controllable Load Resource SCED Base Point is not at HDL, set HDL to the lesser of Aggregated Resource Output + (60 minutes \* Normal Ramp Rate up), or HSL.  (f) Add the deployed MW from Load Resources that are not Controllable Load Resources and that are providing RRS or ECRS to GTBD linearly ramped over the ten-minute ramp period and add the deployed MW from Load Resources that are not Controllable Load Resources providing Non-Spin to GTBD linearly ramped over the 30-minute ramp period. The amount of deployed MW is calculated from the Resource telemetry and from applicable deployment instructions in Extensible Markup Language (XML) messages. ERCOT shall generate a linear bid curve defined by a price/quantity pair of $300/MWh for the first MW of Load Resources deployed and a price/quantity pair of $700/MWh for the last MW of Load Resources deployed in each SCED execution. After recall instruction, the restoration period length and amount of MW added to GTBD during the restoration period will be determined by validated telemetry and the type of Ancillary Service deployed from the Resource. The TAC shall review the validity of the prices for the bid curve at least annually.  (g) Add the deployed MW from VECL to GTBD linearly ramped over a 30-minute ramp period. The amount of deployed MW is calculated from the applicable deployment instructions in XML messages. ERCOT shall generate a linear bid curve defined by a price/quantity pair of $300/MWh for the first MW of VECL deployed and a price/quantity pair of $700/MWh for the last MW of VECL deployed in each SCED execution. After recall instruction, GTBD shall be adjusted to reflect restoration on a linear curve over a one-hour restoration period.  (h) Add the deployed MW from ERS to GTBD. The amount of deployed MW is determined from the XML messages and ERS contracted capacities for the ERS Time Periods when ERS is deployed. After recall, an approximation of the amount of un-restored ERS shall be used. After ERCOT recalls each group, GTBD shall be adjusted to reflect restoration on a linear curve over the assumed restoration period (“RHours”).  The above parameter is defined as follows:   | **Parameter** | **Unit** | **Current Value\*** | | --- | --- | --- | | RHours | Hours | 4.5 | | \* Changes to the current value of the parameter(s) referenced in this table above may be recommended by TAC and approved by the ERCOT Board. ERCOT shall update parameter values on the first day of the month following ERCOT Board approval unless otherwise directed by the ERCOT Board. ERCOT shall provide a Market Notice prior to implementation of a revised parameter value. | | |   (i) Add the MW from DC Tie imports during an EEA or transmission emergency, to address local transmission system limitations, or due to an emergency action by a neighboring system operator during an emergency that is accommodated by ERCOT to GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the ERCOT Operator.  (j) Add the MW from DC Tie export curtailments during an EEA or transmission emergency, to address local transmission system limitations, or due to an emergency action by a neighboring system operator during an emergency that is accommodated by ERCOT to GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the ERCOT Operator. The MW added to GTBD associated with any individual DC Tie shall not exceed the higher of DC Tie advisory limit for exports on that tie as of 0600 in the Day-Ahead or subsequent advisory export limit minus the aggregate export on the DC Tie that remained scheduled following the Dispatch Instruction from the ERCOT Operator.  (k) Subtract the MW from DC Tie exports to address emergency conditions in the receiving electric grid from GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the receiving grid operator.  (l) Subtract the MW from DC Tie import curtailments to address local transmission system limitations or emergency conditions in the receiving electric grid from GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the receiving grid operator. The MW subtracted from GTBD associated with any individual DC Tie shall not exceed the higher of DC Tie advisory limit for imports on that tie as of 0600 in the Day-Ahead or subsequent advisory import limit minus the aggregate import on the DC Tie that remained scheduled following the Dispatch Instruction from the ERCOT Operator.  (m) Add the MW from energy delivered to ERCOT through registered BLTs during an EEA to GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the ERCOT Operator.  (n) Subtract the MW from energy delivered from ERCOT to another power pool through registered BLTs during emergency conditions in the receiving electric grid from GTBD. The amount of MW is determined from the Dispatch Instruction and should continue over the duration of time specified by the receiving grid operator.  (o) Add the deployed MWs from TDSP standard offer Load management programs to GTBD, if ERCOT instructs TDSPs to deploy their standard offer Load management programs. The amount of deployed MW is the value ERCOT provided for all TDSP standard offer Load management programs in the most current May Report on Capacity, Demand and Reserves in the ERCOT Region, unless modified as specified in this paragraph. If ERCOT is informed that all or a portion of a TDSP’s standard offer Load management program has been fully exhausted, or has been expanded as the result of a Public Utility Commission of Texas (PUCT) proceeding, ERCOT will remove the associated MW value of any exhausted capacity from the amount of deployed MW or, in the case of an expansion, ERCOT will request an updated MW value from the relevant TDSPs to use in place of the May Report on Capacity, Demand and Reserves in the ERCOT Region value for that year. The initial value ERCOT will use for deployed MW under this paragraph for each calendar year, as well as any subsequent changes to this value, will be communicated to Market Participants in a Market Notice. After recall, an approximation of the amount of un-restored TDSP standard offer Load management programs shall be used. GTBD shall be adjusted to reflect restoration on a linear curve over the assumed restoration period (“RHours”) defined by item (h) above.  (p) Perform a SCED with changes to the inputs in items (a) through (n) above, considering only Competitive Constraints and the non-mitigated Energy Offer Curves.  (q) Perform mitigation on the submitted Energy Offer Curves using the LMPs from the previous step as the reference LMP.  (r) Perform a SCED with the changes to the inputs in items (a) through (n) above, considering both Competitive and Non-Competitive Constraints and the mitigated Energy Offer Curves.  (s) The Real-Time Reliability Deployment Price Adder for Energy is equal to the positive difference between the System Lambda from item (r) above and the System Lambda of the second step in the two-step SCED process described in paragraph (10)(b) of Section 6.5.7.3, Security Constrained Economic Dispatch.  (t) For each individual Ancillary Service, the Real-Time Reliability Deployment Price Adder for Ancillary Service is equal to the positive difference between the MCPC for that Ancillary Service from item (r) above and the MCPC for that Ancillary Service. |

6.5.9.4.1 General Procedures Prior to EEA Operations

(1) Prior to declaring EEA Level 1 detailed in Section 6.5.9.4.2, EEA Levels, ERCOT may perform the following operations consistent with Good Utility Practice:

(a) Provide Dispatch Instructions to QSEs for specific Resources to operate at an Emergency Base Point to maximize Resource deployment so as to increase PRC levels on other Resources;

(b) Commit specific available Resources as necessary that can respond in the timeframe of the emergency. Such commitments will be settled using the HRUC process;

(c) Start RMR Units available in the time frame of the emergency. RMR Units should be loaded to full capability;

(d) Utilize available Resources providing RRS, ECRS, and Non-Spin services as required;

(e) Instruct TSPs and DSPs or their agents to reduce Customer Load by using existing, in-service distribution voltage reduction measures if ERCOT determines that the implementation of these measures could help avoid entering into EEA and ERCOT does not expect to need to use these measures to reduce the amount of Load shedding that may be needed in EEA Level 3. A TSP, DSP, or their agent shall implement these instructions if distribution voltage reduction measures are available and already installed. If the TSP, DSP, or their agent determines in their sole discretion that the distribution voltage reduction would adversely affect reliability, the voltage reduction measure may be reduced, modified, or otherwise changed from maximum performance to a level of exercise that has no negative impact to reliability; and

(f) ERCOT shall use the PRC and system frequency to determine the appropriate Emergency Notice and EEA levels.

(2) A Load that is willing to curtail during any shortfall described in this Section, subject to an agreement with its QSE, interconnecting TO, and interconnecting TDSP(s), shall be registered by the QSE as a VECL pursuant to Section 23, Form T, Qualified Scheduling Entity, Transmission Operator, and Transmission and/or Distribution Service Provider(s) Acknowledgment of Designation for Customer with Large Load.

(3) When PRC falls below 3,100 MW and is not projected to be recovered above 3,100 MW within 30 minutes following the deployment of Non-Spin, ERCOT may deploy some or all VECLs in via an XML message, as described in Nodal Operating Guide Section 4.5.3.4, Qualified Scheduling Entity VECL Load Shed Obligation, in order to maintain or restore 3,100 MW of PRC to the greatest extent possible.

(a) VECLs may be deployed at any time in a Settlement Interval at the discretion of ERCOT operators.

(b) Upon deployment of any amount of VECLs, ERCOT shall notify all Market Participants via an operations message that such deployment has been made and shall specify the MW capacity of VECL deployed.

(c) ERCOT shall notify QSEs and TOs of the VECLs deployment via an XML message . The deployment time within the ERCOT XML deployment message shall initiate the VECL deployment and the VECL ramp period.

(d) Upon deployment, QSEs shall instruct their VECLs to reduce consumption within 30 minutes from the start of the VECL ramp period and the deployed VECLs shall comply with those instructions. When responding to this deployment instruction, the VECL shall limit their ramp rate to 20% per minute.

(e) QSEs shall promptly notify the ERCOT operator of any VECLs that are unable to comply with a deployment instruction, including the reason for the failure to comply. ERCOT may instruct the applicable TO or QSE (if the VECL is behind the POI of a generator) to disconnect a VECL that fails to comply with a deployment instruction.

(f) ERCOT shall notify QSEs of the termination of the VECLs deployment via an XML recall message. The ERCOT XML recall message shall represent the official notice of the VECLs recall.

(i) If ERCOT has instructed the interconnecting TO to disconnect a VECL for failure to comply with a deployment instruction, ERCOT will also notify the TO once the VECL deployment has been terminated, so that the VECL can be reconnected.

(g) Upon termination of the VECLs deployment, any VECL shall not increase consumption at a rate exceeding 20% per minute.

(h) Upon termination of VECLs deployment, ERCOT shall notify all Market Participants via an operations message that such deployment has been terminated and shall specify the MW capacity of VECLs recalled.

(4) When PRC falls below 3,000 MW and is not projected to be recovered above 3,000 MW within 30 minutes following the deployment of Non-Spin and all Voluntary Early Curtailment Load (VECL), ERCOT may deploy available contracted ERS-10 and ERS-30 via an XML message. The deployment time within the ERCOT XML deployment message shall represent the beginning of the ERS-10 and ERS-30 ramp periods.

(a) ERS-10 and ERS-30 may be deployed at any time in a Settlement Interval. ERS-10 and ERS-30 may be deployed either simultaneously or separately, and in any order, at the discretion of ERCOT operators.

(b) Upon deployment, QSEs shall instruct their ERS Resources in ERS-10 and ERS-30 to perform at contracted levels consistent with the criteria described in Section 8.1.3.1.4, Event Performance Criteria for Emergency Response Service Resources, until either ERCOT releases the ERS-10 and ERS-30 deployment or the ERS-10 and ERS-30 Resources have reached their maximum deployment time.

(c) ERCOT shall notify QSEs of the recall of ERS-10 and ERS-30 via an XML message . The The recall time within the ERCOT XML message shall represent the official notice of ERS-10 and ERS-30 recall.

(d) Upon release, an ERS Resource shall return to a condition such that it is capable of meeting its ERS performance requirements as soon as practical, but no later than ten hours following the release.

(5) When a Watch is issued for PRC below 3,000 MW and ERCOT expects system conditions to deteriorate to the extent that an EEA Level 2 or 3 may be experienced, ERCOT shall evaluate constraints active in SCED and determine which constraints have the potential to limit generation output.

(a) Upon identification of such constraints, ERCOT shall coordinate with the TSPs that own or operate the overloaded Transmission Facilities associated with those constraints, as well as the Resource Entities whose generation output may be limited, to determine whether:

|  |
| --- |
| [NPRR857: Replace paragraph (a) above with the following upon system implementation and satisfying the following conditions: (1) Southern Cross provides ERCOT with funds to cover the entire estimated cost of the project; and (2) Southern Cross has signed an interconnection agreement with a TSP and the TSP gives ERCOT written notice that Southern Cross has provided it with: (a) Notice to proceed with the construction of the interconnection; and (b) The financial security required to fund the interconnection facilities:]  (a) Upon identification of such constraints, ERCOT shall coordinate with the TSPs and DCTOs that own or operate the overloaded Transmission Facilities associated with those constraints, as well as the Resource Entities whose generation output may be limited, to determine whether: |

(i) A 15-Minute Rating is available to allow for additional transmission capacity for use in congestion management, if an EEA Level 2 or 3 is declared, and post-contingency actions can be taken within 15 minutes to return the flow to within the Emergency Rating. Such actions may include, but are not limited to, reducing the generation that increased output as a result of enforcing the 15-Minute Rating rather than the Emergency Rating;

(ii) Post-contingency loading of the Transmission Facilities is expected to be at or below Normal Rating within two hours; or

(iii) Additional transmission capacity could allow for additional output from a limited Generation Resource by taking one of the following actions:

(A) Restoring Transmission Elements that are out of service;

(B) Reconfiguring the transmission system; or

(C) Making adjustments to phase angle regulator tap positions.

If ERCOT determines that one of the above-mentioned actions allows for additional output from a limited Generation Resource, ERCOT may instruct the TSPs to take the action(s) during the Watch to allow for additional output from the limited Generation Resource.

(b) ERCOT shall also coordinate with TSPs who own and operate the Transmission Facilities associated with the double-circuit contingencies for the constraints identified above to determine whether the double-circuit failures are at a high risk of occurring due to system conditions, which may include: severe weather conditions forecasted by ERCOT in the vicinity of the double circuit, weather conditions that indicate a high risk of insulator flashover on the double circuit, repeated Forced Outages of the individual circuits that are part of the double circuit in the preceding 48 hours, or fire in progress in the right of way of the double circuit.

(c) The actions detailed in this Section shall be supplemental to the development and maintenance of CMPs as otherwise directed by the Protocols or Operating Guides.

(6) When a Watch is issued for PRC below 3,000 MW, QSEs shall suspend any ongoing ERCOT-required Resource performance testing.

***16.20 Designation of a Qualified Scheduling Entity by a Voluntary Early Curtailment Load***

(1) A Customer electing to register its Facility as a Voluntary Early Curtailment Load (VECL) shall designate a Qualified Scheduling Entity (QSE) that will provide accurate telemetry of the VECL’s Demand to ERCOT on behalf of the Customer and timely instruct the VECL to cease consumption consistent with ERCOT instructions in the event of a VECL deployment as described in Section 6.5.9.4.1, General Procedures Prior to EEA Operations. The Customer shall acknowledge that it bears sole responsibility for selecting and maintaining a QSE as its representative. The Customer shall include a written statement from the designated QSE acknowledging that the QSE accepts responsibility for the accurate telemetry of the VECL’s Demand and timely instruction to the VECL in the event of a VECL deployment under these Protocols (Section 23, Form T, Qualified Scheduling Entity, Transmission Operator, and Transmission and/or Distribution Service Provider(s) Acknowledgment of Designation for Customer with Large Load). The VECL’s QSE designation must be submitted to ERCOT no later than 45 days prior to the VECL’s Network Operations Model change date, as described in Section 3.10.1, Time Line for Network Operations Model Changes.

(2) A Customer with one or more VECLs may change its designated QSE with written notice to ERCOT; however, the Customer may not change its designated QSE more than once in any consecutive three-day period. The Customer shall maintain a QSE at all times.

(3) If the representation of a Customer with one or more VECLs by its designated QSE will terminate or if the Customer intends to be represented by a different QSE, the Customer shall provide the name of the newly designated QSE to ERCOT along with a written statement from the designated QSE acknowledging that the QSE accepts responsibility for the accurate telemetry of the VECL’s Demand and timely instruction to the VECL in the event of a VECL deployment under these Protocols (Section 23, Form T).

(4) The following apply to all VECLs:

(a) The designated QSE shall install all telemetry required by these Protocols for the requesting Customer and schedule point-to-point data verification with ERCOT.

(b) The designated QSE shall submit telemetry data descriptions to ERCOT to meet ERCOT’s normal model update process.

(c) The Resource Entity must submit any changes in telemetry on behalf of the Customer according to Section 3.3.2.1, Information to Be Provided to ERCOT.

(d) The interconnecting Transmission Service Provider (TSP) must submit any changes in system topology on behalf of the VECL according to Section 3.3.2.1.

(e) The effective date for the newly designated QSE shall be in accordance with Section 3.10.1.

(f) ERCOT may request the Customer to develop a transition implementation plan to be approved by ERCOT that sets appropriate deadlines for completion of all required data and telemetry verification and cutover testing activities with ERCOT.

**ERCOT Nodal Protocols**

**Section 23**

**Form T: Qualified Scheduling Entity, Transmission Operator, and Transmission and/or Distribution Service Provider(s) Acknowledgment of Designation for Customer with Large Load**

**TBD**

Date Received: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Qualified Scheduling Entity (QSE), Transmission Operator (TO), and Transmission and/or Distribution Service Provider(s) (TDSP(s)) Acknowledgment**

**Acknowledgment by Designated QSE for**

**Accurate Telemetry and Load Curtailment Responsibilities with ERCOT**

The Customer below has named the QSE listed below as its designated QSE to represent the Customer for providing accurate telemetry of Customer’s Load to ERCOT at the designated Electric Service Identifier(s) (ESI ID(s)) and timely instruction to the Customer to cease consumption consistent with ERCOT instructions in the event of a deployment of Voluntary Early Curtailment Load (VECL).

The Customer’s designated QSE, listed below, hereby acknowledges that it does represent the Customer and that it shall be responsible for providing accurate telemetry of the Customer’s Load to ERCOT and timely instructing the Customer to cease consumption consistent with ERCOT instructions in the event of a VECL deployment pursuant to the ERCOT Protocols.

The Customer’s TO and interconnecting TDSP(s), listed below, hereby acknowledge and consent to the Customer’s registration with ERCOT as a VECL.

The requested effective date for such representation is:      [[1]](#footnote-1)\*\*

or

Establish participation at the earliest possible date

Acknowledgment by **QSE**:

|  |  |
| --- | --- |
| Signature of Authorized Representative (AR) for QSE: |  |
| Printed Name of AR: |  |
| Email Address of AR: |  |
| Date: |  |
| Name of Designated QSE: |  |
| Data Universal Numbering System (DUNS) of Designated QSE: |  |

Acknowledgment by **Customer**:

|  |  |
| --- | --- |
| Signature of Officer or Executive with authority to bind the Customer: |  |
| Printed Name of Officer or Executive with authority to bind the Customer: |  |
| Email Address of Officer or Executive with authority to bind the Customer: |  |
| Date: |  |
| Name of Customer: |  |
| ESI ID(s) of Customer that are subject to this acknowledgment: |  |
| Substation Code/Mnemonic (if unknown, contact TSP): |  |
| Name of Load in ERCOT Network Operations Model: |  |
| Interconnection voltage: |  |
| Interconnecting TDSP name: |  |
| Peak customer load (MW): |  |
| Capacity of Load participating in program (MW): |  |
| Is the Load co-located with one or more Resources?: |  |
| If so, identify the QSE representing the Resource(s): |  |
| Entity that will provide telemetry: |  |
| Primary phone number for receiving curtailment notification: |  |
| Primary phone number Land line or Cell |  |
| Backup phone number for receiving curtailment notification: |  |
| Backup phone number Land line or Cell |  |
| Email address for receiving curtailment notification: |  |
| Does customer consent to ERCOT’s disclosure of (1) the information provided in the “customer name” and “capacity of Load participating in program” fields above and (2) information about the customer’s actual curtailment following an ERCOT curtailment request? (Yes/No) |  |

Acknowledgment and consent by the interconnecting **TO**:

|  |  |
| --- | --- |
| Signature of Officer or Executive with authority to bind the TO: |  |
| Printed Name of Officer or Executive with authority to bind the TO: |  |
| Email Address of Officer or Executive with authority to bind the TO: |  |
| Date: |  |

Acknowledgment and consent by the interconnecting **TDSP(s)**:

|  |  |
| --- | --- |
| Signature of Officer or Executive with authority to bind the TDSP(s): |  |
| Printed Name of Officer or Executive with authority to bind the TDSP(s): |  |
| Email Address of Officer or Executive with authority to bind the TDSP(s): |  |
| Date: |  |

1. \*\* *Actual effective date will depend on time needed to implement the relationship in ERCOT systems once ERCOT has received all necessary information (a minimum of three Business Days), and may be later than the requested effective date. ERCOT will notify the parties of the actual effective date*. [↑](#footnote-ref-1)