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| NPRR Number | [1112](https://www.ercot.com/mktrules/issues/NPRR1112) | NPRR Title | Reduction of Unsecured Credit Limits |
|  | |  | |
| Date | | March 18, 2022 | |
|  | |  | |
| Submitter’s Information | | | |
| Name | | Mark Ruane | |
| E-mail Address | | [mruane@ercot.com](mailto:mruane@ercot.com) | |
| Company | | ERCOT | |
| Phone Number | | 512-248-3000 | |
| Cell Number | |  | |
| Market Segment | | Not applicable | |

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| Comments |

ERCOT appreciates the opportunity to provide comments to Nodal Protocol Revision Request (NPRR) 1112, as modified by the 2/2/22 Joint Commenters comments and 2/16/22 Credit WG comments; and as recommended for approval by PRS in the 3/9/22 PRS Report.

ERCOT disagrees with the reinstatement of Unsecured Credit Limits as proposed by the Joint Commenters. In the event of a default by a Market Participant with an Unsecured Credit Limit that leads to default uplift, the Unsecured Credit Limit translates directly to a cost that must be borne by other Market Participants. The provision of unsecured credit therefore means that the credit risk from the market activities of some Market Participants is subsidized by others. Elimination of unsecured credit will reduce the inconsistent cross-subsidization of credit exposure and provide a more level playing field for Market Participants.

ERCOT has pointed out in stakeholder meetings that exchanges other than ISOs (*eg* ICE) do not provide unsecured credit to their members. The Joint Commenters make the point that ERCOT is not acting in the same capacity as an exchange, because exchanges are for-profit entities that guarantee performance. While ERCOT may not provide a guarantee of delivery of power, and is a not-for-profit entity, it is unclear how these distinctions provide justification for the cross-subsidization of credit risk on behalf of some Market Participants.

The Joint Commenters also expressed concerns that the elimination of unsecured credit will transfer credit risk to banks issuing letters of credit that may themselves have lower credit ratings than the entities currently using unsecured credit. First, ERCOT notes that the limits on letters of credit accepted from banks are calibrated with respect to the credit ratings and tangible net worth of the banks. Letters of credit are only accepted from banks rated A-/A3 or above, whereas unsecured credit may currently be granted to Market Participants with agency ratings of BBB-/Baa3, or even to unrated Municipal Owned Utilities (MOUs) or Electric Cooperatives (ECs). Therefore, ERCOT expects in the aggregate that provision of credit support by banks may reduce credit risk.

Second, from a policy viewpoint ERCOT believes it preferable to transfer credit risk to eligible banks rather than to other Market Participants, many of whom have non-investment grade ratings or are unrated.

The Joint Commenters note that requiring the highest-rated Market Participants to post additional collateral will not address the default risk from the rest of the market. This is true, as this was not in the scope of NPRR1112, but in its Roadmap to Improving Grid Reliability ERCOT has committed to conduct a study of credit best practices to reduce the risk of future under-collateralization. ERCOT considers NPRR1112 as originally drafted to be consistent with that commitment.

The Joint Commenters expressed concerns that elimination of unsecured credit would result in more banks approaching or exceeding the limits on bank issuance of letters of credit as determined under paragraph (1) of Section 16.11.3, Alternative Means of Satisfying ERCOT Creditworthiness Requirements. If this is the case ERCOT is open to revisiting the limits on issuing banks.

In light of the above, ERCOT asks that PRS grant NPRR1112 Urgent status so that it can be considered at the April 6, 2022 Special PRS meeting; and that PRS recommend approval of NPRR1112 as amended by these comments.

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| Revised Cover Page Language |

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| NPRR Number | [1112](https://www.ercot.com/mktrules/issues/NPRR1112) | NPRR Title | Elimination of Unsecured Credit Limits |
| Revision Description | | This Nodal Protocol Revision Request (NPRR) eliminates Unsecured Credit Limits. Unsecured Credit Limits are offset against Total Potential Exposure Any (TPEA) and thereby reduce the Financial Security available to offset potential future default uplift amounts. Although Unsecured Credit Limits are deleted in this NPRR, acceptable guarantors, which currently require an Unsecured Credit Limit, may still be used for provision of financial statements and determination of compliance with minimum capital requirements. In addition, consistent with provisions for Securitziation Default Charge escrow deposits, this NPRR clarifies that letters of credit used for Financial Security must be drawn on a U.S. domestic bank or a domestic office of a foreign bank. | |
| Business Case | | Protocols currently allow Unsecured Credit Limits for certain Counter-Parties.  Unsecured Credit Limits are primarily driven by Counter-Party or guarantor agency credit ratings and the size of equity or Tangible Net Worth. The existing framework for computing Unsecured Credit Limits leads to disparate treatment among Market Participants. Furthermore, the metrics used are not neccesarily predictive of actual creditworthiness, particularly in distress scenarios. After the 2021 winter storm event there were payment defaults by Counter-Parties with Unsecured Credit Limits, thereby increasing the potential default uplift amounts to other Market Participants. | |
| Sponsor | | | |
| Name | | Mark Ruane | |
| E-mail Address | | [mruane@ercot.com](mailto:mruane@ercot.com) | |
| Company | | ERCOT | |
| Phone Number | | 512-248-3000 | |
| Cell Number | |  | |
| Market Segment | | Not applicable | |

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| Revised Proposed Protocol Language |

16.11 Financial Security for Counter-Parties

(1) The term “Financial Security” in this Section means the collateral amount posted with ERCOT in any of the forms listed in Section 16.11.3, Alternative Means of Satisfying ERCOT Creditworthiness Requirements.

(2) The term “Remainder Collateral” in this Section means the Financial Security minus Total Potential Exposure Secured (TPES) minus Net Positive Exposure of approved Congestion Revenue Right (CRR) Bilateral Trades minus Available Credit Limit (ACL) locked for CRR Auction, calculated in accordance with paragraph (3) of Section 16.11.4.6.1, Credit Requirements for CRR Auction Participation.

***16.11.1 ERCOT Creditworthiness Requirements for Counter-Parties***

(1) Each Counter-Party shall meet ERCOT’s creditworthiness standards as provided in this Section. A Counter-Party must, at all times, maintain its Financial Security at or above the amount of its Total Potential Exposure (TPE). Each Counter-Party shall maintain any required Financial Security in a form acceptable to ERCOT in its sole discretion. If at any time the Counter-Party does not meet ERCOT’s creditworthiness requirements, then ERCOT may suspend the Counter-Party’s rights under these Protocols until it meets those creditworthiness requirements. ERCOT’s failure to suspend the Counter-Party’s rights on any particular occasion does not prevent ERCOT from suspending those rights on any subsequent occasion, including a CRR Account Holder’s ability to bid on future CRRs or a Qualified Scheduling Entity’s (QSE’s) ability to bid in the Day-Ahead Market (DAM).































16.11.2 Alternative Means of Satisfying ERCOT Creditworthiness Requirements

(1) A Counter-Party required to provide Financial Security under these Protocols may do so through one or more of the following means:

(a) The Counter-Party may give an unconditional, irrevocable letter of credit naming ERCOT as the beneficiary. ERCOT may, in its sole discretion, reject the letter of credit if the issuer is unacceptable to ERCOT or if the conditions under which ERCOT may draw against the letter of credit are unacceptable to ERCOT.

(i) The letter of credit must be given using the ERCOT Board-approved standard letter of credit form.

(ii) All letters of credit must be drawn on a U.S. domestic bank or a U.S. domestic office of a foreign bank.

(iii) Letters of credit must be issued by a bank or other financial institution that is acceptable to ERCOT, with a minimum rating of A- with S&P or Fitch or A3 with Moody’s.

(iv) Letters of credit are subject to an overall limit per letter of credit issuer for all ERCOT Counter-Parties as determined below:

| If the issuing entity has | | Then |
| --- | --- | --- |
| Long-Term or Issuer Rating | | Maximum letter of credit issuer limit as a percentage of Tangible Net Worth of issuer |
| S&P or Fitch | Moody’s |
| AAA | Aaa | 1.00% |
| AA+ | Aa1 | 0.95% |
| AA | Aa2 | 0.90% |
| AA- | Aa3 | 0.85% |
| A+ | A1 | 0.80% |
| A | A2 | 0.75% |
| A- | A3 | 0.70% |
| Below A- | Below A3 | Not accepted |

(A) Each letter of credit issuer limit is also subject to an overall limit of $750 million per issuer.

(B) Each Bank Business Day, ERCOT will issue a report of each letter of credit issuer detailing the issuer’s dollar amount of the letters of credit currently issued to ERCOT, the issuer’s computed aggregate concentration limit, and the unused capacity under that limit. Market Participants may inquire of ERCOT about intra-day changes to the amount of posted letters of credit.

(C) If a letter of credit issuer limit is breached, Counter-Parties utilizing that issuer will be notified and no new letters of credit from the issuer will be accepted while the limit remains breached.

(D) After four months of the limit in breach, ERCOT will no longer accept new letters of credit or amendments to existing letters of credit from that issuer.

(E) Letters of credit held as collateral at the time of an issuer limit breach will not be rejected.

(F) ERCOT in its sole discretion may authorize exceptions to these limits.

(G) Revisions to the issuer limit calculation in this Section will be recommended by the Technical Advisory Committee (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.

(b) The Counter-Party may give a surety bond naming ERCOT as the beneficiary.

(i) The surety bond must be signed by a surety acceptable to ERCOT, in its sole discretion and must be in the form of ERCOT’s standard surety bond form approved by the ERCOT Board. No modifications to the form are permitted.

(ii) The surety bond must be issued by an insurance company with a minimum rating of A- with S&P or Fitch or A3 with Moody’s.

(iii) Surety bonds are subject to a limit of $10 million per Counter-Party per insurer and an overall limit of $100 million per insurer for all ERCOT Counter-Parties.

(c) The Counter-Party may deposit Cash Collateral with ERCOT with the understanding that ERCOT may draw part or all of the deposited cash to satisfy any overdue payments owed by the Counter-Party to ERCOT. The Cash Collateral may bear interest payable directly to the Counter-Party, but any such arrangements may not restrict ERCOT’s immediate access to the cash.

(i) Interest on Cash Collateral will be calculated based on Counter-Party average Cash Collateral balances. Interest is not paid on Cash Collateral balances held by ERCOT where, in accordance with paragraph (4) of Section 16.11.7, Release of Market Participant’s Financial Security Requirement, the Counter-Party’s Standard Form Market Participant Agreement has been terminated and ERCOT has determined that no obligations remain owing or will become due and payable.

(ii) Once per year, ERCOT will:

(A) Return interest earned on a Counter-Party’s Cash Collateral to the Counter-Party if the amount of interest earned is greater than $50; or

(B) Retain interest earned on a Counter-Party’s Cash Collateral as additional Cash Collateral if the amount of interest earned is less than or equal to $50.

(iii) ERCOT has a security interest in all property delivered by the Counter-Party to ERCOT from time to time to meet the creditworthiness requirements, and that property secures all amounts owed by the Counter-Party to ERCOT.

16.11.4 Determination and Monitoring of Counter-Party Credit Exposure

16.11.4.1 Determination of Total Potential Exposure for a Counter-Party

(1) A Counter-Party’s TPE is the sum of its “Total Potential Exposure Any” (TPEA) and TPES:

(a) TPEA is the positive net exposure of the Counter-Party not included in TPES.

(b) TPES is the positive net exposure of the Counter-Party for Future Credit Exposure (FCE) and the Independent Amount (IA).

(2) For all Counter-Parties:

TPEA = Max [0, MCE, Max [0, ((1-TOA) \* EAL *q* + TOA \* EAL *t* +EAL *a*)]] + PUL

TPES = Max [0, FCE *a*] + IA

The above variables are defined as follows:

| Variable | Unit | Description |
| --- | --- | --- |
| EAL *q* | $ | *Estimated Aggregate Liability for all QSEs that represents Load or generation*—EAL for all QSEs represented by the Counter-Party if at least one QSE represented by the Counter-Party represents either Load or generation. |
| EAL *t* | $ | *Estimated Aggregate Liability for all QSEs* —EAL for all QSEs represented by the Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation. |
| EAL *a* | $ | *Estimated Aggregate Liability for all CRR Account Holders*—EAL for all CRR Account Holders represented by the Counter-Party. |
| PUL | $ | *Potential Uplift*—Potential uplift to the Counter-Party, to the extent and in the proportion that the Counter-Party represents Entities to which an uplift of a short payment will be made pursuant to Section 9.19, Partial Payments by Invoice Recipients. It is calculated as the sum of: (a) Amounts expected to be uplifted within one year of the date of the calculation; and (b) the lesser of: (i) 25% of amounts expected to be uplifted beyond one year of the date of the calculation; or (ii) five years’ worth of uplift charges. |
| FCE *a* | $ | *Future Credit Exposure for all CRR Account Holders*—FCE for all CRR Account Holders represented by the Counter-Party. |
| MCE | $ | *Minimum Current Exposure*—For each Counter-Party, ERCOT shall determine a Minimum Current Exposure (MCE) as follows:  MCE = Max[RFAF \* MAF \* Max[{**[**L *i, od, p* \* RTSPP *i, od, p*]/*n*}, {**[[[**L *i, od, p* \* *T2***-** G *i, od, p* \* (1-*NUCADJ*) \* *T3*] \* RTSPP *i, od, p*] + [RTQQNET *i, od, p*\* *T5*]]**/***n*},  {**[**G *i, od, p* \* *NUCADJ* \* *T1* \* RTSPP *i, od, p***]/**n},  {DARTNET*i, od, p* \* *T4*/*n*}],  MAF \* IMCE]  RTQQNET *i, od, p* = Max**[(**RTQQES *i, od, p, c -*RTQQEP *i, od, p, c*), *BTCF* \* (RTQQES *i, od, p, c* – RTQQEP *i, od, p, c*)] \* RTSPP *i, od, p*  DARTNET *i, od, p*  = DAM EOO Cleared *i, od, p* \* DART *i, od, p*+ DAM TPO Cleared *i, od, p* \* DART *i, od, p* + DAM PTP Cleared *i, od, p* \* DARTPTP *i, od, p*– DAM EOB Cleared *i, od, p* \* DART *i, od, p*  Where:  G *i, od, p* = *Total Metered Generation at all Resource Nodes* for the Counter-Party for interval *i* for Operating Day *od* at Settlement Point *p*  L *i, od, p* = *Total Adjusted Metered Load (AML) at all Load Zones* for the Counter-Party for interval *i* for Operating Day *od* at Settlement Point *p*  MAF = *Market Adjustment Factor*—Used to provide for the potential for overall price increases based on changes to ERCOT market rules or market conditions. This factor shall not be set below 100%. Revisions to this factor will be recommended by the Technical Advisory Committee (TAC) and the ERCOT Finance and Audit (F&A) Committee, and approved by the ERCOT Board. Such revisions shall be implemented on the 45th calendar day following ERCOT Board approval unless otherwise directed by the ERCOT Board.  *NUCADJ*= *Net Unit Contingent Adjustment*—To allow for situations where a generator may unintentionally or intentionally meet its requirement from the Real-Time Market (RTM)  RTQQNET *i, od, p* = *Net QSE-to-QSE Energy Trades* for the Counter-Party for interval *i* for Operating Day *od* at Settlement Point *p*  RTQQES *i, od, p, c* = *QSE Energy Trades* for which the Counter-Party is the seller for interval *i* for Operating Day *od* at Settlement Point *p* with Counter-Party *c*  RTQQEP *i, od, p, c* = *QSE Energy Trades* for which the Counter-Party is the buyer for interval *i* for Operating Day *od* at Settlement Point *p* with Counter-Party *c*  *BTCF* = *Bilateral Trades Credit Factor*  RTSPP *i, od, p* = *Real-Time Settlement Point Price* for interval *i* for Operating Day *od* at Settlement Point *p*  DARTNET *i, od, p* = *Net DAM activities* for the Counter-Party for interval *i* for Operating Day *od* at Settlement Point *p*  DART *i, od, p* = *Day-Ahead - Real-Time Spread* for interval *i* for Operating Day *od* at Settlement Point *p*  DAM EOB Cleared*i, od, p* = *DAM Energy Only Bids Cleared* for interval *i* for Operating Day *od* at Settlement Point *p*  DAM EOO Cleared *i, od, p* = *DAM Energy Only Offers Cleared* for interval *i* for Operating Day *od* at Settlement Point *p*  DAM TPO Cleared *i, od, p* = *DAM Three-Part Offers Cleared* for interval *i* for Operating Day *od* at Settlement Point *p*  DAM PTP Cleared *i, od, p* = *DAM Point-to-Point (PTP) Obligations Cleared* for interval *i* for Operating Day *od* at Settlement Point *p*  DARTPTP *i, od, p* = *Day-Ahead - Real-Time Spread* for value of PTP Obligation for interval *i* for Operating Day *od* at Settlement Point *p*  *c* = Bilateral Counter-Party  *cif = Cap Interval Factor* - Represents the historic largest percentage of System-Wide Offer Cap (SWCAP) intervals during a calendar day  *e* = Most recent *n* Operating Days for which RTM Initial Settlement Statements are available  *i* = Settlement Interval  *n* = Days used for averaging  *nm =* Notional Multiplier  *od* = Operating Day  *p* = A Settlement Point |
| |  |  |  |  | | --- | --- | --- | --- | | [NPRR1013: Replace the variable “MCE” above with the following upon system implementation of the Real-Time Co-Optimization (RTC) project:]   |  |  |  | | --- | --- | --- | | MCE | $ | *Minimum Current Exposure*—For each Counter-Party, ERCOT shall determine a Minimum Current Exposure (MCE) as follows:  MCE = Max[RFAF \* MAF \* Max[{**[**L *i, od, p* \* RTSPP *i, od, p*]/*n*}, {**[[[**L *i, od, p* \* *T2***-** G *i, od, p* \* (1-*NUCADJ*) \* *T3*] \* RTSPP *i, od, p*] + [RTQQNET *i, od, p*\* *T5*]]**/***n*},  {**[**G *i, od, p* \* *NUCADJ* \* *T1* \* RTSPP *i, od, p***]/**n},  {{DARTNET*i, od, p* \* *T4*/*n*} {DARTASONET *i, od, c \* T4/n*}}],  MAF \* IMCE]  RTQQNET *i, od, p* = Max**[(**RTQQES *i, od, p, c -*RTQQEP *i, od, p, c*), *BTCF* \* (RTQQES *i, od, p, c* – RTQQEP *i, od, p, c*)] \* RTSPP *i, od, p*  DARTNET *i, od, p*  = DAM EOO Cleared *i, od, p* \* DART *i, od, p*+ DAM TPO Cleared *i, od, p* \* DART *i, od, p* + DAM PTP Cleared *i, od, p* \* DARTPTP *i, od, p*– DAM EOB Cleared *i, od, p* \* DART *i, od, p*  DARTASONET *i, od* = DAM ASOO Cleared *i, od* \* DARTMCPC *i, od*  Where:  G *i, od, p* = *Total Metered Generation at all Resource Nodes* for the Counter-Party for interval *i* for Operating Day *od* at Settlement Point *p*  L *i, od, p* = *Total Adjusted Metered Load (AML) at all Load Zones* for the Counter-Party for interval *i* for Operating Day *od* at Settlement Point *p*  MAF = *Market Adjustment Factor*—Used to provide for the potential for overall price increases based on changes to ERCOT market rules or market conditions. This factor shall not be set below 100%. Revisions to this factor will be recommended by the Technical Advisory Committee (TAC) and the ERCOT Finance and Audit (F&A) Committee, and approved by the ERCOT Board. Such revisions shall be implemented on the 45th calendar day following ERCOT Board approval unless otherwise directed by the ERCOT Board.  *NUCADJ*= *Net Unit Contingent Adjustment*—To allow for situations where a generator may unintentionally or intentionally meet its requirement from the Real-Time Market (RTM)  RTQQNET *i, od, p* = *Net QSE-to-QSE Energy Trades* for the Counter-Party for interval *i* for Operating Day *od* at Settlement Point *p*  RTQQES *i, od, p, c* = *QSE Energy Trades* for which the Counter-Party is the seller for interval *i* for Operating Day *od* at Settlement Point *p* with Counter-Party *c*  RTQQEP *i, od, p, c* = *QSE Energy Trades* for which the Counter-Party is the buyer for interval *i* for Operating Day *od* at Settlement Point *p* with Counter-Party *c*  DARTASONET *i, od* = *Net DAM Ancillary Service Only activities* for interval *i* for Operating Day *od*  DAM ASOO Cleared *i, od* = DAM Ancillary Service Only Offers Cleared in DAM for interval *i* for Operating Day *od*  DARTMCPC *i, od* = Day-Ahead – Real-Time MCPC Spread for interval *i* for Operating Day *od*  *BTCF* = *Bilateral Trades Credit Factor*  RTSPP *i, od, p* = *Real-Time Settlement Point Price* for interval *i* for Operating Day *od* at Settlement Point *p*  DARTNET *i, od, p* = *Net DAM activities* for the Counter-Party for interval *i* for Operating Day *od* at Settlement Point *p*  DART *i, od, p* = *Day-Ahead - Real-Time Spread* for interval *i* for Operating Day *od* at Settlement Point *p*  DAM EOB Cleared*i, od, p* = *DAM Energy Only Bids Cleared* for interval *i* for Operating Day *od* at Settlement Point *p*  DAM EOO Cleared *i, od, p* = *DAM Energy Only Offers Cleared* for interval *i* for Operating Day *od* at Settlement Point *p*  DAM TPO Cleared *i, od, p* = *DAM Three-Part Offers Cleared* for interval *i* for Operating Day *od* at Settlement Point *p*  DAM PTP Cleared *i, od, p* = *DAM Point-to-Point (PTP) Obligations Cleared* for interval *i* for Operating Day *od* at Settlement Point *p*  DARTPTP *i, od, p* = *Day-Ahead - Real-Time Spread* for value of PTP Obligation for interval *i* for Operating Day *od* at Settlement Point *p*  *c* = Bilateral Counter-Party  *cif = Cap Interval Factor* - Represents the historic largest percentage of System-Wide Offer Cap (SWCAP) intervals during a calendar day  *e* = Most recent *n* Operating Days for which RTM Initial Settlement Statements are available  *i* = Settlement Interval  *n* = Days used for averaging  *nm =* Notional Multiplier  *od* = Operating Day  *p* = A Settlement Point | | | | |
| IMCE | $ | *Initial Minimum Current Exposure*  IMCE = TOA \* (SWCAP \* *nm* \* *cif%*) |
| TOA | None | *Trade-Only Activity*—Counter-Party that does not represent either a Load or a generation QSE. Set to “0” if Counter-Party represents a QSE that has an association with a Load Serving Entity (LSE) or a Resource Entity, or if Counter-Party does not represent any QSE;otherwise set to 1. |
| *q* | None | QSEs represented by Counter-Party. |
| *a* | None | CRR Account Holders represented by Counter-Party. |
| IA | $ | *Independent Amount*—The amount required to be posted as defined in Section 16.16.1, Counter-Party Criteria. |
| RFAF | None | *Real-Time Forward Adjustment Factor*—The adjustment factor for RTM-related forward exposure as defined in Section 16.11.4.3.3, Forward Adjustment Factors. |

The above parameters are defined as follows:

| Parameter | Unit | Current Value\* |
| --- | --- | --- |
| *nm* | None | 50 |
| *cif* | Percentage | 9% |
| *NUCADJ* | Percentage | Minimum value of 20%. |
| *T1* | Days | 2 |
| *T2* | Days | 5 |
| *T3* | Days | 5 |
| *T4* | Days | 1 |
| *T5* | Days | For a Counter-Party that represents Load this value is equal to 5, otherwise this value is equal to 2. |
| *BTCF* | Percentage | 80% |
| *n* | Days | 14 |
| \* The current value for the parameters referenced in this table above will 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. | | |

(3) If ERCOT, in its sole discretion, determines that the TPEA or the TPES for a Counter-Party calculated under paragraphs (1) or (2) above does not adequately match the financial risk created by that Counter-Party’s activities under these Protocols, then ERCOT may set a different TPEA or TPES for that Counter-Party. ERCOT shall, to the extent practical, give to the Counter-Party the information used to determine that different TPEA or TPES. ERCOT shall provide written or electronic Notice to the Counter-Party of the basis for ERCOT’s assessment of the Counter-Party’s financial risk and the resulting creditworthiness requirements.

(4) ERCOT shall monitor and calculate each Counter-Party’s TPEA and TPES daily.

16.11.4.3 Determination of Counter-Party Estimated Aggregate Liability

(1) After a Counter-Party commences activity in ERCOT markets, ERCOT shall monitor and calculate the Counter-Party’s EAL based on the formulas below.

**EAL *q* = Max [IEL during the first 40-day period only beginning on the date that the Counter-Party commences activity in ERCOT markets, RFAF \* Max {RTLE during the previous *lrq* days}, RTLF] + DFAF \* DALE + Max [RTLCNS, Max {URTA during the previous *lrq* days}] + OUT *q* + ILE*q***

**EAL *t* = Max [RFAF \* Max {RTLE during the previous *lrt* days}, RTLF] + DFAF \* DALE + Max [RTLCNS, Max {URTA during the previous *lrt* days}] + OUT *t***

**EAL *a* = OUT *a***

ERCOT may adjust the number of days used in determining the highest RTLE and/or URTA, and/or to exclude specific Operating Days to calculate RTLE, URTA, OUT, or DALE.

The above variables are defined as follows:

| Variable | Unit | Description |
| --- | --- | --- |
| EAL*q* | $ | *Estimated Aggregate Liability for all the QSEs* represented by a Counter-Party if at least one QSE represented by the Counter-Party represents either Load or generation. |
| EAL *t* | $ | *Estimated Aggregate Liability for all the QSEs* represented by a Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation. |
| EAL*a* | $ | *Estimated Aggregate Liability for all the CRR Account Holders* represented by the Counter-Party. |
| IEL | $ | *Initial Estimated Liability for all the QSEs* represented by the Counter-Party if at least one QSE represented by the Counter-Party represents either Load or generation as defined in paragraphs (1), (2), (3) and (4) of Section 16.11.4.2, Determination of Counter-Party Initial Estimated Liability. |
| *q* |  | QSEs represented by Counter-Party. |
| *t* |  | QSEs represented by a Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation |
| *a* |  | CRR Account Holders represented by Counter-Party. |
| RTLE | $ | *Real Time Liability Extrapolated*—M1 multiplied by the sum of the net amount, with zero substituted for missing values, due to or from ERCOT by the Counter-Party in the 14 most recent Operating Days for which RTM Initial Statements are produced for Counter-Parties according to the ERCOT Settlement Calendar divided by 14. |
| URTA | $ | *Unbilled Real-Time Amount*—M2 multiplied by the sum of the net amount, with zero substituted for missing values, due to or from ERCOT by the Counter-Party in the 14 most recent Operating Days for which RTM Initial Statements are produced for Counter-Parties according to the ERCOT Settlement Calendar divided by 14. |
| RTL | $ | *Real-Time Liability*—The estimated or settled amounts due to or from ERCOT due to activities in the RTM for an Operating Day, as defined in Section 16.11.4.3.2, Real-Time Liability Estimate. |
| RTLCNS | $ | *Real Time Liability Completed and Not Settled*—For each Operating Day that is completed but not settled, ERCOT shall calculate RTL adjusted up by *rtlcu%* if there is a net amount due to ERCOT or adjusted down by *rtlcd%* if there is a net amount due to the QSE.  RTLCNS = Sum of Max RTL(*rtlcu%* \* RTL, *rtlcd%* \* RTL) for all completed and not settled Operating Days  Where:  *rtlcu* = Real-Time Liability Markup  *rtlcd* = Real-Time Liability Markdown |
| RTLF | $ | *Real-Time Liability Forward*— rtlfp% of the sum of estimated RTL from the most recent seven Operating Days.  RTLF = *rtlf%* of the Sum of Max RTL(*rtlcu%* \* RTL*, rtlcd%* \* RTL) for the most recent seven Operating Days  Where:  *rtlfp =* Real-Time Liability Forward |
| OUT q | $ | *Outstanding Unpaid Transactions*—Outstanding unpaid transactions for all QSEs represented by the Counter-Party, which include (a) outstanding Invoices to the Counter-Party; (b) estimated unbilled items to the Counter-Party, to the extent not adequately accommodated in the RTLE calculation (including resettlements and other known liabilities); and (c) estimated CRR Auction revenue available for distribution for Operating Days in the previous two months, to the extent not invoiced to the Counter-Party. Invoices will not be considered outstanding for purposes of this calculation the Business Day after that Invoice payment is received.  OUT *q* = OIA *q* + UDAA *q* + UFA *q* + UTA *q* + CARD  Where:  OIA *q* = *Outstanding Invoice Amounts for all the QSEs represented by the Counter-Party* – Sum of any outstanding Real-Time and Day-Ahead unpaid invoices issued to the Counter-Party, including but not limited to CRR Auction Revenue Distribution (CARD) Invoices, CRR Balancing Account Invoices, Default Uplift Invoices and other miscellaneous Invoices. Also included are the amounts or portions of Invoices due to the Counter-Party that have been short-paid as a result of a default or non-payment of Invoices due to ERCOT by another Counter-Party.  UDAA *q* = *Unbilled Day-Ahead Amounts for all the QSEs represented by the Counter-Party*  – Sum of DAL for all the QSEs represented by the Counter-Party for all Operating Days for which a DAM Statement is not generated.  UFA *q* = *Unbilled Final Amounts for all the QSEs represented by the Counter-Party* – Unbilled final extrapolated days (*ufd)* multiplied by the sum of the net amount due to or from ERCOT for all QSEs represented by the Counter-Party for Operating Days for which RTM Final Statements were generated in the 21 most recent calendar days, divided by the number of Operating Days for which RTM Final Settlement Statements were generated for the Counter-Party in the 21 most recent calendar days.  UTA *q* = *Unbilled True-Up Amounts for all the QSEs represented by the Counter-Party* –– Unbilled true-up extrapolated days (*utd)* multiplied by the sum of the net amount due to or from ERCOT by the Counter-Party for all the QSEs represented by the Counter-Party for Operating Days for which RTM True-up Statements were generated in the 21 most recent calendar days, divided by the number of Operating Days for which RTM True-up Settlement Statements were generated for the Counter-Party in the 21 most recent calendar days.  CARD = *CRR Auction Revenue Distribution for all the QSEs represented by the Counter-Party* –Estimate of the Counter-Party’s unpaid allocation of CRR Auction revenues that have already been collected but have not been paid out to all QSEs represented by the Counter-Party. CRR Auction revenues that have been earned but not billed are distributed based on the following Load Ratio Shares (LRSs): (a) Zonal LRS applied to revenues from CRRs cleared and have source and sink points located within a 2003 ERCOT Congestion Management Zone (CMZ), and (b) ERCOT-wide LRS applied to all other CRR Auction revenues. The LRS will be based on the latest completed operating month for which LRS are available. |
| DAL | $ | *Day-Ahead Liability*—The estimated or settled amounts due to or from ERCOT due to activities in the DAM for an Operating Day, as defined in Section 16.11.4.3.1, Day-Ahead Liability Estimate. |
| OUT *t* | $ | *Outstanding Unpaid Transactions*—Outstanding unpaid transactions for all QSEs represented by the Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation, which include (a) outstanding Invoices to the Counter-Party; (b) estimated unbilled items to the Counter-Party, to the extent not adequately accommodated in the RTLE calculation (including resettlements and other known liabilities).  OUT *t* = OIA *t* + UDAA *t* + UFA *t* + UTA *t*  Where:  OIA *t* = *Outstanding Invoice Amounts for all the QSEs represented by the Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation* – Sum of any outstanding Real-Time and Day-Ahead unpaid Invoices issued to the Counter-Party, including but not limited to CRR Balancing Account Invoices, Default Uplift Invoices and other miscellaneous Invoices. Also included are the amounts or portions of invoices due to the Counter-Party that have been short-paid as a result of a Default or non-payment of invoices due to ERCOT by another Counter-Party.  UDAA *t* = *Unbilled Day-Ahead Amounts for all the QSEs represented by the Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation* – Sum of DAL for all the QSEs represented by the Counter-Party for all Operating Days for which DAM Statement is not generated.  UFA *t* = *Unbilled Final Amounts for all the QSEs represented by the Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation* – *ufd* multiplied by the sum of the net amount due to or from ERCOT for all QSEs represented by the Counter-Party for Operating Days for which RTM Final Statements were generated in the 21 most recent calendar days, divided by the number of Operating Days for which RTM Final Settlement Statements were generated for the Counter-Party in the 21 most recent calendar days.  UTA *t* = *Unbilled True-Up Amounts for all the QSEs represented by the Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation* – *utd* multiplied by the sum of the net amount due to or from ERCOT by the Counter-Party for all the QSEs represented by the Counter-Party for Operating Days for which RTM True-up Statements were generated in the 21 most recent calendar days, divided by the number of Operating Days for which RTM True-up Settlement Statements were generated for the Counter-Party in the 21 most recent calendar days. |
| OUT *a* | $ | *Outstanding Unpaid Transactions for all CRR Account Holders represented by the Counter-Party*—Outstanding, unpaid transactions of all the CRR Account Holders represented by the Counter-Party, which include outstanding Invoices to the Counter-Party. Invoices will not be considered outstanding for purposes of this calculation the Business Day after that Invoice payment is received.  OUT *a* = OIA *a* + UDAA *a*  Where:  OIA *a* = *Outstanding Invoice Amounts for all the CRR Account Holders represented by the Counter-Party* – Sum of any outstanding Real-Time and Day-Ahead unpaid Invoices issued to the Counter-Party including but not limited to CRR Balancing Account Invoices, Default Uplift Invoices and other miscellaneous Invoices. Also included are the amounts or portions of Invoices due to the Counter-Party that have been short-paid as a result of a default or non-payment of Invoices due to ERCOT by another Counter-Party.  UDAA *a* = *Unbilled Day-Ahead Amounts for all the CRR Account Holders represented by the Counter-Party*  – Sum of DAL of all the CRR Account Holders represented by the Counter-Party for all Operating Days for which DAM Statement is not generated. |
| ILE***q*** | $ | *Incremental Load Exposure –*In the event of a Mass Transition necessitated by the default of a Counter-Party representing a QSE associated with an LSE, ERCOT may adjust the TPE of the Counter-Parties representing QSEs that are qualified as Providers of Last Resort (POLRs) to reflect the estimated Incremental Load Exposure (ILE) resulting from the Mass Transition. The adjustment will be based on the POLR’s *pro rata* share of the defaulting Counter-Party’s RTLE, based on the total estimated Electric Service Identifiers (ESI IDs) to be transitioned. ERCOT will communicate any such adjustment to the Authorized Representative of each Counter-Party who is a POLR within 24 hours of the initiation of a Mass Transition. The ILE adjustment will remain in place no more than the number of days necessary to effect a Mass Transition for the defaulting Counter-Party, after which time the incremental exposure will be fully reflected in the Counter-Party’s unadjusted TPE. |
| DALE | $ | *Average Daily Day-Ahead Liability Extrapolated*—M1 multiplied by the sum of the net amount, with zero substituted for missing values, due to or from ERCOT by the Counter-Party in the seven most recent Operating Days for which DAM Settlement Statements are produced for Counter-Parties according to the ERCOT Settlement Calendar divided by seven. |
| M1 |  | M1 = M1a + M1b—Multiplier for DALE and RTLE. Provides for forward risk during a Counter-Party termination upon default based upon the sum of the time period required for any termination upon default (M1a) and the time period required for a Mass Transition only (M1b). The M1a component is applicable to all Counter-Parties. The M1b component is applicable only to Counter-Parties representing any QSE associated with a LSE.  M1a = Time period required for any termination from an Operating Day.  M1a is comprised of a fixed value (*M1d*), representing days from issuance of a collateral call to termination, and a calendar day-specific variable value. For any Operating Day, M1a is equal to the total number of forward calendar days encompassed by starting on the Operating Day, including *M1d* Bank Business Days forward, and adding any ERCOT holidays that are also Bank Business Days.  M1b = Weighted average transition days = Min(B, (2 + Max(1, (u+1)/2))\*(1-DF)), rounded up to whole days  Where:  u = (ESIn/r) Unscaled number of days to transition.  B = Benchmark value. Used to establish a maximum M1 value.  ESIn = Number of ESI IDs associated with an individual Counter-Party. This value will be updated no less often than annually by ERCOT and updated values communicated to individual Counter-Parties. Counter-Parties entering the market will provide an estimated number of ESI IDs for use during their first six months of market activity. Subsequent to this time, the value for that Counter-Party shall be updated by ERCOT concurrently with other Counter-Parties with QSEs representing an LSE.  r = Assumed ESI ID daily transition rate.  DF = Discount Factor applied to M1b if the Counter-Party meets other creditworthiness standards that may be developed and approved by TAC and the ERCOT Board. |
| M2 |  | Multiplier for URTA. |
| RFAF | None | *Real-Time Forward Adjustment Factor*—The adjustment factor for RTM-related forward exposure as defined in Section 16.11.4.3.3, Forward Adjustment Factors. |
| DFAF | None | *Day-Ahead Forward Adjustment Factor*—The adjustment factor for DAM-related forward exposure as defined in Section 16.11.4.3.3. |
| *lrq* | Days | Look-back period for RTM to find the maximum of RTLE or URTA for all QSEs represented by the Counter-Party if any of the QSEs represented by the Counter-Party represent either Load or generation. |
| *lrt* | Days | Look-back period for RTM to find the maximum of RTLE or URTA for all QSEs represented by the Counter-Party if none of the QSEs represented by the Counter-Party represent either Load or generation. |

The above parameters are defined as follows:

| Parameter | Unit | Current Value\* |
| --- | --- | --- |
| *rtlcu* | Percentage | 110% |
| *rtlcd* | Percentage | 90% |
| *rtlfp* | Percentage | 150% |
| *ufd* | Days | 55 |
| *utd* | Days | 180 |
| *M1d* | Days | 8 |
| *B* | Days | 8 |
| *r* | none | 100,000 per day |
| *DF* | Percentage | 0 |
| *M2* | Days | 9 |
| *lrq* | Days | 40 |
| *lrt* | Days | 20 |
| \* The current value for the parameters referenced in this table above will 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. | | |

16.11.4.6 Determination of Counter-Party Available Credit Limits

(1) ERCOT shall calculate an Available Credit Limit for the CRR Auction (ACLC) and an Available Credit Limit for the DAM (ACLD) as follows:

(a) ACLC for each Counter-Party equal to the maximum of zero and the net of its:

(i) Secured Financial Security; minus

(ii) (1+ACLIRF) \* TPES; minus

(iii)Net Positive Exposure of approved CRR Bilateral Trades; minus

(iv) Maximum of:

(A) Zero; and

(B) ((1+ACLIRF) \* TPEA).

(b) ACLD for each Counter-Party equal to the maximum of zero and its:

(i) Remainder Collateral; minus

(ii) ACLIRF \* TPES; minus

(iii) (1+ACLIRF) \* TPEA.

(c) If all or part of a Counter-Party’s ACLC and/or ACLD cannot be computed due to an ERCOT computer system failure or Market Suspension, then ERCOT shall estimate ACLC and/or ACLD for that Counter-Party and provide the information used to determine such estimates to that Counter-Party. If all or part of ACLC and/or ACLD cannot be estimated with current data, then the most recently available values shall be used to determine the Counter-Party’s ACLC and/or ACLD. ERCOT shall provide electronic Notice, as soon as practicable, to Counter-Parties when utilizing this methodology, and shall further provide electronic Notice to Counter-Parties when current data is restored and available to calculate ACLC and ACLD under paragraphs (a) and (b) above.

The above parameters are defined as follows:

| Parameter | Unit | Current Value\* |
| --- | --- | --- |
| *ACLIRF* | Percentage | 10% *— ACL Incremental Risk Factor*. |
| \* The current value for the parameters referenced in this table above will 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. | | |

16.11.5 Monitoring of a Counter-Party’s Creditworthiness and Credit Exposure by ERCOT

(1) ERCOT shall monitor the creditworthiness and credit exposure of each Counter-Party or its guarantor, if any. To enable ERCOT to monitor creditworthiness, each Counter-Party shall provide to ERCOT:

(a) Its own or its guarantor’s quarterly (semi-annually, if the guarantor is foreign and rated by a rating agency acceptable to ERCOT) unaudited financial statements not later than 60 days (90 days if the guarantor is foreign and rated by a rating agency acceptable to ERCOT) after the close of each of the issuer’s fiscal quarters; if an issuer’s financial statements are publicly available electronically and the issuer provides to ERCOT sufficient information to access those financial statements, then the issuer is considered to have met this requirement.

(b) Its own or its guarantor’s annual audited financial statements not later than 120 days after the close of each of the issuer’s fiscal year; if an issuer’s financial statements are publicly available electronically and the issuer provides to ERCOT sufficient information to access those financial statements, then the issuer is considered to have met this requirement. ERCOT may extend the period for providing interim unaudited or annual audited statements on a case-by-case basis. Annual audited financial statements must be prepared in accordance with U.S. Generally Accepted Accounting Principles (GAAP) or International Accounting Standards (IAS).

(c) For paragraphs (a) and (b) above, financial statements shall include the Counter-Party’s or its guarantor’s:

(i) Statement of Financial Position (balance sheet) as of the applicable quarterly or annual ending date;

(ii) Statement of Income (or Profit and Loss); and

(iii) Statement of Cash Flows.

(d) Notice of a material change. A Counter-Party shall inform ERCOT within one Business Day if it has experienced a material change in its operations, financial condition or prospects that might adversely affect the Counter-Party.

(e) Any guarantor of a Counter-Party that submits its own financial statements purusuant to this section must provide a guarantee in one of the standard form documents approved by the ERCOT Board of Directors and be approved by ERCOT. No modifications of such forms are permitted.

(2) A Counter-Party is responsible at all times for maintaining:

(a) Financial Security in an amount equal to or greater than that Counter-Party’s

(i) TPES; plus

(ii) Net Positive Exposure of approved CRR Bilateral Trades; plus

(iii) ACL locked for CRR Auction, if any; and

(b) Remainder Collateral in an amount equal to or greater than that Counter-Party’s TPEA.

(3) ERCOT shall promptly notify each Counter-Party of the need to increase its Financial Security and allow the Counter-Party time, as defined in paragraph (6)(a) below, to provide additional Financial Security to maintain compliance with this Section.

(4) When either the Counter-Party’s TPEA or TPES as defined in Section 16.11.4, Determination and Monitoring of Counter-Party Credit Exposure, reaches 90% of its requirement, ERCOT shall use reasonable efforts to electronically issue a warning to the Counter-Party’s Authorized Representative and credit contact advising the Counter-Party that it should consider increasing its Financial Security. However, failure to issue that warning does not prevent ERCOT from exercising any of its other rights under this Section.

(5) ERCOT may suspend a Counter-Party when:

(a) That Counter-Party’s TPES as defined in Section 16.11.4, equals or exceeds 100% of its Financial Security; or

(b) That Counter-Party’s TPEA as defined in Section 16.11.4 equals or exceeds 100% of its Remainder Collateral.

The Counter-Party is responsible at all times for managing its activity within both its TPEA and its TPES or increasing its Financial Security to avoid reaching its limits. Any failure by ERCOT to send a Notice as set forth in this Section does not relieve the Counter-Party from the obligation to maintain appropriate Financial Security in amounts equal to or greater than that Counter-Party’s TPES and TPEA as defined in Section 16.11.4.

(6) To the extent that a Counter-Party fails to maintain Financial Security in amounts equal to or greater than its TPES or Remainder Collateral in amounts equal to or greater than its TPEA, each as defined in Section 16.11.4:

(a) ERCOT shall promptly notify the Counter-Party of the amount by which its Financial Security must be increased and allow it:

(i) Until 1500 on the second Bank Business Day from the date on which ERCOT delivered the Notice to increase its Financial Security if ERCOT delivered its Notice before 1500; or

(ii) Until 1700 on the second Bank Business Day from the date on which ERCOT delivered Notification to increase its Financial Security if ERCOT delivered its Notice after 1500 but prior to 1700.

ERCOT shall notify the QSE’s Authorized Representative(s) and Credit Contact if it has not received the required security by 1530 on the Bank Business Day on which the security was due; however, failure to notify the Counter-Party’s representatives or contact that the required security was not received does not prevent ERCOT from exercising any of its other rights under this Section.

(b) At the same time ERCOT notifies the Counter-Party that is the QSE, ERCOT may notify each LSE and Resource represented by the Counter-Party that the LSE or Resource may be required to designate a new QSE if its current QSE fails to increase its Financial Security.

(c) ERCOT is not required to make any payment to that Counter-Party unless and until the Counter-Party increases its Financial Security. The payments that ERCOT will not make to a Counter-Party include Invoice receipts, CRR revenues, CRR credits, reimbursements for short payments, and any other reimbursements or credits under any other agreement between the Market Participant and ERCOT. ERCOT may retain all such amounts until the Counter-Party has fully discharged all payment obligations owed to ERCOT under the Counter-Party Agreement, other agreements, and these Protocols.

(d) ERCOT may reject any bids or offers in a CRR Auction from the Counter-Party until it has increased its Financial Security. ERCOT may reject any bids or offers from the Counter-Party in the DAM until it has increased its Financial Security.

(7) If a Counter-Party increases its Financial Security as required by ERCOT by the deadline in paragraph (6)(a) above, then ERCOT may notify each LSE and Resource represented by the Counter-Party.

(8) If a Counter-Party increases its Financial Security as required by ERCOT by the deadline in paragraph (6)(a) above, then ERCOT shall release any payments held.

16.11.6.2.5 Level I Enforcement

(1) Under Level I Enforcement, ERCOT shall notify the Market Participant to comply with one of the following requirements:

(a) If the Market Participant has not provided Financial Security, the Market Participant shall now provide Financial Security, within two Bank Business Days, in an amount at or above 110% of the amount of the Market Participant’s TPE; or any other liability to ERCOT that the Market Participant has or is expected to have for activity in the ERCOT Region, whichever applies.

(b) If the Market Participant has already provided Financial Security, the Market Participant shall increase its Financial Security, within two Bank Business Days, to an amount at or above 110% of its TPE or any other liability to ERCOT that the Market Participant has or is expected to have for activity in the ERCOT Region, whichever applies.

(2) Increased Financial Security requirements under this Section remain in effect for a minimum of 60 days and remain in effect thereafter until ERCOT, at its sole discretion, determines to reduce such Financial Security requirements to the normally applicable levels.

16.11.6.2.6 Level II Enforcement

(1) Under Level II Enforcement, ERCOT shall notify the Market Participant that the Market Participant shall provide Financial Security, within two Bank Business days, in the form of a cash deposit or letter of credit, as chosen by ERCOT at its sole discretion, at 115% of the Market Participant’s TPE or for any other liability to ERCOT that the Market Participant has or is expected to have for activity in the ERCOT Region.

(2) Increased Financial Security requirements under this Section remain in effect for a minimum of 60 days and remain in effect thereafter until ERCOT, at its sole discretion, determines to reduce such Financial Security requirements to the normally applicable levels.

16.11.6.2.7 Level III Enforcement

(1) Under Level III Enforcement, ERCOT shall notify the Market Participant that the Market Participant shall provide Financial Security within two Bank Business Days at 120% of the Market Participant’s TPE or for any other liability to ERCOT that the Market Participant has or is expected to have for activity in the ERCOT Region. Required Financial Security in excess of TPE must be in the form of a cash deposit.

(2) Increased Financial Security requirements under this Section remain in effect for a minimum of 90 days and remain in effect thereafter until ERCOT, at its sole discretion, determines to reduce such Financial Security requirements to the normally applicable levels.

16.16.1 Counter-Party Criteria

(1) In order to participate in the ERCOT Real-Time, Day-Ahead and Congestion Revenue Right (CRR) markets, in addition to satisfying any other eligibility requirements set forth in the ERCOT Protocols, each Counter-Party must satisfy, and at all times remain in compliance with, the following requirements:

(a) **Expertise in Markets**. All employees or agents transacting in ERCOT markets pursuant to the ERCOT Protocols have had appropriate training and/or experience and are qualified and authorized to transact on behalf of the Counter-Party.

(b) **Market Operational Capabilities**. Counter-Party has appropriate market operating procedures and technical abilities to promptly and effectively respond to all ERCOT market communications.

(c) **Allowable Contract Participants**. Each Counter-Party must be one of the following:

(i) An “Appropriate Person” as defined in sections 4(c)(3)(A) through (J) of the Commodity Exchange Act (7 U.S.C. § 6(c)(3)(A)-(J));

(ii) An “Eligible Contract Participant,” as defined in section 1a(18)(A) of the Commodity Exchange Act (7 U.S.C. § 1a(18)(A)) and in Commodity Futures Trading Commission (CFTC) regulation 1.3(m) (17 C.F.R. § 1.3(m)); or

(iii) A “person who actively participates in the generation, transmission, or distribution of electric energy,” as that term is defined in the CFTC’s final exemption order (78 Fed. Reg. 19,879).

ERCOT may request necessary information to verify compliance with this requirement.

(d) **Capitalization**. Counter-Party, or an acceptable guarantor, shall maintain minimum capital as follows:

(i) For a Counter-Party seeking authorization to participate or participating in all ERCOT markets:

(A) $10 million in total assets; or

(B) $1 million in:

(1) Unencumbered assets for unrated Electric Cooperative (EC) and Municipal systems; or

(2) Tangible Net Worth for all other Entities.

(ii) For a Counter-Party seeking authorization to participate or participating in all ERCOT markets except for the CRR market:

(A) $5 million in total assets; or

(B) $500,000 in:

(1) Unencumbered assets for unrated EC and Municipal systems; or

(2) Tangible Net Worth for all other Entities.

(iii) To fulfill the capitalization requirements above, a Counter-Party must provide:

(A) Audited financial statements of the Counter-Party or its guarantor in accordance with Section 16.11.5, Monitoring of a Counter-Party’s Creditworthiness and Credit Exposure by ERCOT; and

(B) If for a guarantor, a guarantee on one of the standard form documents approved by the ERCOT Board, for an amount no less than the minimum necessary to meet the capitalization requirements.

(iv) Regardless of whether the Counter-Party or an acceptable guarantor meets the capitalization criteria above, ERCOT may nevertheless require the Counter-Party to meet the capitalization criteria by posting an Independent Amount in the event that the Counter-Party or a guarantor has a material change that may adversely affect the Counter-Party’s or an acceptable guarantor’s financial condition in conjunction with or subsequent to the most recent audited annual or unaudited quarterly financial statements. The Counter-Party shall notify ERCOT within one day after a material adverse change has occurred. The final determination of a material adverse change is solely within ERCOT’s discretion.

(v) In the event audited financial statements do not meet the capitalization requirements, or there has been a material adverse change in the financial condition of the Counter-Party or acceptable guarantor in conjunction with or subsequent to the most recent audited annual or unaudited quarterly financial statements, Counter-Party will provide an Independent Amount in the form and amount necessary to participate in the ERCOT markets as follows:

(A) For a Counter-Party seeking authorization to participate or participating in all ERCOT markets, $500,000 Independent Amount.

(B) For a Counter-Party seeking authorization to participate or participating in all ERCOT markets except for the CRR market, $200,000 Independent Amount.

(C) For purposes of assessment of the Independent Amount, ERCOT will deem a Counter-Party that is or is applying to be a CRR Account Holder as having a desire to participate in all ERCOT markets.

(D) Financial Security posted pursuant to this section is fully available to ERCOT in the event of the Counter-Party’s Payment Breach.

(E) ERCOT shall add the Independent Amount to that Counter-Party’s Total Potential Exposure Secured (TPES) pursuant to Section 16.11 and designate it as the Independent Amount. ERCOT will require Financial Security for the Independent Amount in the same way as it does for other TPES elements.

(F) Any non-payment of the Independent Amount is considered a Payment Breach pursuant to Section 16.11.6, Payment Breach and Late Payments by Market Participants. ERCOT may use any of the remedies provided in Section 16.11.6 to collect the Independent Amount for each Counter-Party.

(e) **Risk Management Capabilities**. Each Counter-Party shall maintain appropriate, comprehensive risk management capabilities with respect to the ERCOT markets in which the Counter-Party transacts or wishes to transact. ERCOT may review documentation supporting a Counter-Party’s risk management framework as part of its processes for verifying the implementation of a Counter-Party’s risk management framework as described in Section 16.16.3, Verification of Risk Management Framework.

16.16.3 Verification of Risk Management Framework

(1) ERCOT will periodically perform or cause to be performed procedures to assess the risk management framework of Counter-Parties, including its implementation.

(2) ERCOT may retain a third party either to assess the sufficiency of the Counter-Party’s risk management framework or to provide guidance and advice as to what constitutes appropriate content with respect to generally accepted risk management practices in their respective markets, commensurate and proportional in sophistication, scope and frequency to the volume of transactions and the nature and extent of risk taken by the Counter-Party.

(3) ERCOT shall, identify the nature and scope of generally accepted risk management practices in their respective markets by which Counter-Party risk management frameworks will be assessed. Key elements will include:

(a) The risk management framework is documented in a risk policy addressing market and credit risks that has been approved by a Counter-Party’s risk management function which includes appropriate corporate persons or bodies that are independent of the Counter-Party’s trading functions, such as a risk management committee, a designated risk officer, participant Counter-Party’s board or board committee, or, if applicable, a board or committee of the Counter-Party’s parent company.

(b) A Counter-Party maintains an organizational structure with clearly defined roles and responsibilities that clearly segregate trading and risk control functions.

(c) There is clarity of authority specifying the transactions into which traders are allowed to enter.

(d) A Counter-Party ensures that traders have adequate training and/or experience relative to their delegations of authority in systems and the markets in which they transact.

(e) As appropriate, a Counter-Party has risk limits in place to control risk exposures.

(f) A Counter-Party has reporting in place to ensure risks are adequately communicated throughout the organization.

(g) A Counter-Party has processes in place for independent confirmation of executed transactions.

(h) A Counter-Party performs a periodic valuation or mark-to-market of risk positions, as appropriate.

(4) The ERCOT Board may approve minimum standards under an Other Binding Document.

(5) Upon notice of being selected for verification, a Counter-Party will make available or submit to ERCOT, or a third party acting on ERCOT’s behalf, such documentation as is necessary to provide evidence of the sufficiency and implementation of its risk management framework. Such information may include, but not be limited to, documents of the following nature: risk policies, organizational charts, Delegations of Authority, training records, risk limit structure, reporting frameworks, and relevant procedures, all in a level of detail acceptable to ERCOT. Along with such documentation, a Counter-Party will provide a written explanation to ERCOT or its agent of how its risk management framework conforms to the risk management standards noted above. Requested information and documents must be made available for review by ERCOT, or a third party acting on ERCOT’s behalf, 30 days after Notice of the request. ERCOT will provide Counter-Party Notice of inadequate documentation and will give Counter-Party ten Business Days to correct the inadequacy. At ERCOT’s sole discretion, these deadlines may be extended on a case-by-case basis.

(6) If necessary, Counter-Parties will support the verification process by, among other things, making appropriate personnel available for interviews, permitting on-site observation of credit and risk management processes and procedures, and providing written responses to written inquiries on a timely basis. A Counter-Party may request that ERCOT or a third party performing verification on ERCOT’s behalf perform the review on-site at the Counter-Party’s location. Any resulting additional expenses will in this case be the sole responsibility of the Counter-Party making the request.

(7) ERCOT will perform procedures to verify the risk management framework at least annually for any Counter-Party if that Counter-Party or its guarantor:

(a) Has had one or more late payments or represents a QSE or CRR Account Holder that has short-paid Settlement Invoices in the year preceding the date of the annual certificate; and

(b) Has had exposure in CRR Obligations in the ERCOT CRR market during the year preceding the date of the annual certificate.

(i) Notwithstanding the above, ERCOT will perform risk management framework verification procedures on other Counter-Parties at its sole discretion.

(8) Upon completion of its review, ERCOT will notify the Counter-Party whether or not any material deficiencies were noted. If material deficiencies exist, ERCOT may, in its sole discretion, establish in consultation with the Counter-Party, a remediation plan for any deficiencies. The remediation period allowed for specific deficiencies should be consistent with the severity of those deficiencies and may have incremental deadlines. The total remediation period will not exceed 90 days, unless extended, at ERCOT’s sole discretion, on a case-by-case basis.

(9) Risk management deficiencies remaining beyond the ERCOT-defined remediation periods constitute a material breach under the Counter-Party’s Standard Form Market Participant Agreement as provided for in Section 22, Attachment A, Standard Form Market Participant Agreement. Upon a material breach, ERCOT may, in addition to any other rights or remedies ERCOT has under any agreement, these Protocols or at common law, suspend any or all future activities in the ERCOT market, pending remediation of deficiencies. An action by ERCOT to suspend activities in the ERCOT market is subject to the provisions of Section 20, Alternative Dispute Resolution Process.

(10) Participation in ERCOT markets is contingent on verification by ERCOT, or by a third party acting on ERCOT’s behalf, that the proposed measures have been implemented.

(11) If a Counter-Party provides evidence that its risk management framework has been deemed sufficient for transacting in another Regional Transmission Operator/Independent System Operator market in the United States, ERCOT may elect to forego verification processes.

(12) In conjunction with providing its annual certificate, if a Counter-Party certifies that there has been no material change in its risk management capabilities since the framework was last verified, ERCOT may elect to forego verification. ERCOT may not forego verification more than once in any 24-month period.

***25.4.2 Determination of Counter-Party Available Credit Limits***

(1) During a Market Suspension, a Counter-Party’s Available Credit Limit for the CRR Auction (ACLC) and Available Credit Limit for the DAM (ACLD) will be determined pursuant to Section 16.11.4.6, Determination of Counter-Party Available Credit Limits.

(2) In accordance with Section 25.4.3, Collateral Management, ERCOT may, at its sole discretion, waive, in part or in full, the requirements in paragraph (2) of Section 16.11.5, Monitoring of a Counter-Party’s Creditworthiness Credit Exposure by ERCOT, for Counter-Parties to maintain designated amounts of Secured and/or Remainder Collateral.

(43) The exercise of any measures described in paragraph (2) above shall be reflected in the estimated ACLC and/or ACLD values provided to Counter-Parties pursuant to Section 16.11.4.6.