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| NPRR Number |  | NPRR Title | Credit Risk Assessment and Associated Enforcement  |
| Date Posted |  |
|  |  |
| Requested Resolution  | Normal |
| Nodal Protocol Sections Requiring Revision  | 1.3.1.1 Items Considered Protected Information 16.11.1 ERCOT Creditworthiness Requirements for Counter-Parties  |
| Related Documents Requiring Revision/Related Revision Requests | NA |
| Revision Description | This Nodal Protocol Revision Request (NPRR) formalizes processes for ERCOT assessment of Counter-Party creditworthiness. This includes a Counter-Party credit scoring process to provide a consistent framework for review of creditworthiness. Credit scoring will incorporate assessment of both qualitative and quantitative (financial statement) information.In the event of a material change in creditworthiness, this NPRR clarifies the means by which ERCOT may adjust Unsecured Credit Limits and/or Total Potential Exposure (TPE) to ensure that these adequately reflect the financial risk created by the Counter-Party’s activities under these Protocols.  |
| Reason for Revision |  Addresses current operational issues. Meets Strategic goals (tied to the [ERCOT Strategic Plan](http://www.ercot.com/content/wcm/lists/144926/ERCOT_Strategic_Plan_2019-2023.pdf) or directed by the ERCOT Board). Market efficiencies or enhancements Administrative Regulatory requirements Other: (explain)*(please select all that apply)* |
| Business Case | This NPRR documents the means by which ERCOT will assess Counter-Party creditworthiness. While under current Protocols ERCOT may adjust Unsecured Credit Limits and TPE to reflect the credit risk of a Counter-Party, this NPRR provides additional clarity to Market Participants of the process by which this might occur to ensure transparency in the process. |

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| Market Segment | NA |

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| **Name** |  |
| **E-Mail Address** |  |
| **Phone Number** |  |

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| Proposed Protocol Language Revision |

1.3.1.1 Items Considered Protected Information

(1) Subject to the exclusions set out in Section 1.3.1.2, Items Not Considered Protected Information, and in Section 3.2.5, Publication of Resource and Load Information, “Protected Information” is information containing or revealing any of the following:

(a) Base Points, as calculated by ERCOT. The Protected Information status of this information shall expire 60 days after the applicable Operating Day;

(b) Bids, offers, or pricing information identifiable to a specific Qualified Scheduling Entity (QSE) or Resource. The Protected Information status of part of this information shall expire 60 days after the applicable Operating Day, as follows:

(i) Ancillary Service Offers by Operating Hour for each Resource for all Ancillary Services submitted for the Day-Ahead Market (DAM) or any Supplemental Ancillary Services Market (SASM);

(ii) The quantity of Ancillary Service offered by Operating Hour for each Resource for all Ancillary Service submitted for the DAM or any SASM; and

(iii) Energy Offer Curve prices and quantities for each Settlement Interval by Resource. The Protected Information status of this information shall expire within seven days after the applicable Operating Day if required to be posted as part of paragraph (5) of Section 3.2.5 and within two days after the applicable Operating Day if required to be posted as part of paragraph (7) of Section 3.2.5;

(c) Status of Resources, including Outages, limitations, or scheduled or metered Resource data. The Protected Information status of this information shall expire 60 days after the applicable Operating Day;

(d) Current Operating Plans (COPs). The Protected Information status of this information shall expire 60 days after the applicable Operating Day;

(e) Ancillary Service Trades, Energy Trades, and Capacity Trades identifiable to a specific QSE or Resource. The Protected Information status of this information shall expire 180 days after the applicable Operating Day;

(f) Ancillary Service Schedules identifiable to a specific QSE or Resource. The Protected Information status of this information shall expire 60 days after the applicable Operating Day;

(g) Dispatch Instructions identifiable to a specific QSE or Resource, except for Reliability Unit Commitment (RUC) commitments and decommitments as provided in Section 5.5.3, Communication of RUC Commitments and Decommitments. The Protected Information status of this information shall expire 180 days after the applicable Operating Day;

(h) Raw and Adjusted Metered Load (AML) data (demand and energy) identifiable to:

(i) A specific QSE or Load Serving Entity (LSE). The Protected Information status of this information shall expire 180 days after the applicable Operating Day; or

(ii) A specific Customer or Electric Service Identifier (ESI ID);

(i) Wholesale Storage Load (WSL) data identifiable to a specific QSE. The Protected Information status of this information shall expire 180 days after the applicable Operating Day;

(j) Settlement Statements and Invoices identifiable to a specific QSE. The Protected Information status of this information shall expire 180 days after the applicable Operating Day;

(k) Number of ESI IDs identifiable to a specific LSE. The Protected Information status of this information shall expire 365 days after the applicable Operating Day;

(l) Information related to generation interconnection requests, to the extent such information is not otherwise publicly available. The Protected Information status of certain generation interconnection request information expires as provided in Section 1.3.3, Expiration of Confidentiality;

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| ***[NPRR902: Replace paragraph (l) above with the following upon system implementation, but no earlier than July 1, 2020:]***(l) Information related to generation interconnection requests, to the extent such information is not otherwise publicly available. The Protected Information status of certain generation interconnection request information expires as provided in Section 1.3.1.4, Expiration of Protected Information Status; |

(m) Resource-specific costs, design and engineering data, including such data submitted in connection with a verifiable cost appeal;

(n) Congestion Revenue Right (CRR) credit limits, the identity of bidders in a CRR Auction, or other bidding information identifiable to a specific CRR Account Holder. The Protected Information status of this information shall expire as follows:

(i) The Protected Information status of the identities of CRR bidders that become CRR Owners and the number and type of CRRs that they each own shall expire at the end of the CRR Auction in which the CRRs were first sold; and

(ii) The Protected Information status of all other CRR information identified above in item (n) shall expire six months after the end of the year in which the CRR was effective.

(o) Renewable Energy Credit (REC) account balances. The Protected Information status of this information shall expire three years after the REC Settlement period ends;

(p) Credit limits identifiable to a specific QSE;

(q) Any information that is designated as Protected Information in writing by Disclosing Party at the time the information is provided to Receiving Party except for information that is expressly designated not to be Protected Information by Section 1.3.1.2 or that, pursuant to Section 1.3.3, is no longer confidential;

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| ***[NPRR902: Replace paragraph (q) above with the following upon system implementation, but no earlier than July 1, 2020:]***(q) Any information that is designated as Protected Information in writing by Disclosing Party at the time the information is provided to Receiving Party except for information that is expressly designated not to be Protected Information by Section 1.3.1.2 or that, pursuant to Section 1.3.1.4, is no longer confidential;  |

(r) Any information compiled by a Market Participant on a Customer that in the normal course of a Market Participant’s business that makes possible the identification of any individual Customer by matching such information with the Customer’s name, address, account number, type of classification service, historical electricity usage, expected patterns of use, types of facilities used in providing service, individual contract terms and conditions, price, current charges, billing record, or any other information that a Customer has expressly requested not be disclosed (“Proprietary Customer Information”) unless the Customer has authorized the release for public disclosure of that information in a manner approved by the Public Utility Commission of Texas (PUCT). Information that is redacted or organized in such a way as to make it impossible to identify the Customer to whom the information relates does not constitute Proprietary Customer Information;

(s) Any software, products of software, or other vendor information that ERCOT is required to keep confidential under its agreements;

(t) QSE, Transmission Service Provider (TSP), and Distribution Service Provider (DSP) backup plans collected by ERCOT under the Protocols or Other Binding Documents;

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| ***[NPRR857: Replace item (t) above with the following upon system implementation:]***(t) QSE, Transmission Service Provider (TSP), Direct Current Tie Operator (DCTO), and Distribution Service Provider (DSP) backup plans collected by ERCOT under the Protocols or Other Binding Documents; |

(u) Direct Current Tie (DC Tie) information provided to a TSP or DSP under Section 9.17.2, Direct Current Tie Schedule Information;

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| ***[NPRR857: Replace item (u) above with the following upon system implementation:]***(u) Direct Current Tie (DC Tie) Schedule information provided to a TSP or DSP under Section 9.17.2, Direct Current Tie Schedule Information; |

(v) Any Texas Standard Electronic Transaction (TX SET) transaction submitted by an LSE to ERCOT or received by an LSE from ERCOT. This paragraph does not apply to ERCOT’s compliance with:

(i) PUCT Substantive Rules on performance measure reporting;

(ii) These Protocols or Other Binding Documents; or

(iii) Any Technical Advisory Committee (TAC)-approved reporting requirements;

(w) Information concerning a Mothballed Generation Resource’s probability of return to service and expected lead time for returning to service submitted pursuant to Section 3.14.1.9, Generation Resource Status Updates;

(x) Information provided by Entities under Section 10.3.2.4, Reporting of Net Generation Capacity;

(y) Alternative fuel reserve capability and firm gas availability information submitted pursuant to Section 6.5.9.3.1, Operating Condition Notice, Section 6.5.9.3.2, Advisory, and Section 6.5.9.3.3, Watch, and as defined by the Operating Guides;

(z) Non-public financial information provided by a Counter-Party to ERCOT pursuant to meeting its credit qualification requirements as well as the QSE’s form of credit support;

(aa) ESI ID, identity of Retail Electric Provider (REP), and MWh consumption associated with transmission-level Customers that wish to have their Load excluded from the Renewable Portfolio Standard (RPS) calculation consistent with Section 14.5.3, End-Use Customers, and subsection (j) of P.U.C. Subst. R. 25.173, Goal for Renewable Energy;

(bb) Generation Resource emergency operations plans and weatherization plans;

(cc) Information provided by a Counter-Party under Section 16.16.3, Verification of Risk Management Framework;

(dd) Any data related to Load response capabilities that are self-arranged by the LSE or pursuant to a bilateral agreement between a specific LSE and its Customers, other than data either related to any service procured by ERCOT or non-LSE-specific aggregated data.  Such data includes pricing, dispatch instructions, and other proprietary information of the Load response product;

(ee) Status of Settlement Only Generators (SOGs), including Outages, limitations, or scheduled or metered output data, except that ERCOT may disclose output data from an SOG as part of an extract or forwarded TX SET transaction provided to the LSE associated with the ESI ID of the Premise where the SOG is located. The Protected Information status of this information shall expire 60 days after the applicable Operating Day;

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| ***[NPRR829: Replace paragraph (ee) above with the following upon system implementation:]***(ee) Status of Settlement Only Generators (SOGs), including Outages, limitations, schedules, metered output data, or data telemetered for use in the calculation of Real-Time Liability (RTL) as described in Section 16.11.4.3.2, Real-Time Liability Estimate, except that ERCOT may disclose metered output data from an SOG as part of an extract or forwarded TX SET transaction provided to the LSE associated with the ESI ID of the Premise where the SOG is located. The Protected Information status of this information shall expire 60 days after the applicable Operating Day; |

(ff) Any documents or data submitted to ERCOT in connection with an Alternative Dispute Resolution (ADR) proceeding. The Protected Information status of this information shall expire upon ERCOT’s issuance of a Market Notice indicating the disposition of the ADR proceeding pursuant to paragraph (1) of Section 20.9, Resolution of Alternative Dispute Resolution Proceedings and Notification to Market Participants, except to the extent the information continues to qualify as Protected Information pursuant to another paragraph of this Section 1.3.1.1;

(gg) Reasons for and future expectations of overrides to a specific Resource’s High Dispatch Limit (HDL) or Low Dispatch Limit (LDL). The Protected Information status of this information shall expire 60 days after the applicable Operating Day;

(hh) Information provided to ERCOT under Section 16.18, Cybersecurity Incident Notification, except that ERCOT may disclose general information concerning a Cybersecurity Incident in a Market Notice in accordance with paragraph (5) of Section 16.18 to assist Market Participants in mitigating risk associated with a Cybersecurity Incident; and

(ii) Information disclosed in response to paragraphs (1)-(4) of the Gas Pipeline Coordination section of Section 22, Attachment K, Declaration of Completion of Generation Resource Summer Weatherization Preparations and Natural Gas Pipeline Coordination for Resource Entities with Natural Gas Generation Resources, submitted to ERCOT in accordance with Section 3.21.1, Natural Gas Pipeline Coordination Requirements for Resource Entities with Natural Gas Generation Resources for Summer Preparedness and Summer Peak Load Season. The Protected Information status of Resource Outage information shall expire as provided in paragraph (1)(c) of Section 1.3.1.1.

(jij) ERCOT’s internal Counter-Party credit score, as determined in accordance with Section 16.11.1, Monitoring of Counter-Party Creditworthiness by ERCOT.

16.11.1 Monitoring of Counter-Party Creditworthiness by ERCOT

(1) ERCOT shall assess the creditworthiness of Entities applying to QSEs and/or CRRAHs, and monitor the creditworthiness of existing Counter-Parties on an ongoing basis. Creditworthiness is assessed to ensure that, as determined by ERCOT in its sole discretion:

(a) The Unsecured Credit Limit for the Counter-Party or applicant, as determined under Section 16.11.3, is appropriate with respect to the financial risk created by the Counter-Party’s activities under these Protocols; or

(b) The Total Potential Exposure (TPE) for the Counter-Party or applicant, as calculated under Section 16.11.5, appropriately reflects the financial risk created by that Counter-Party’s activities under these Protocols.

(2) If ERCOT determines that either of the conditions in (1) are not met, one or both of the following actions may be taken:

(a) The Counter-Party’s Unsecured Credit Limit may be revised in accordance with paragraphs (e) and (f) of Section 16.11.4; and

(b) The Counter-Party’s TPE may be revised in accordance with paragraphs (3) and (4) of Section 16.11.5.1.

(3) To provide a framework for the assessment of Counter-Party creditworthiness, ERCOT will assign an internal credit score to each Counter-Party, QSE applicant and CRRAH applicant. The score will be comprised of:

(a) A quantitative component computed using one or more internal financial scoring models maintained by ERCOT; and

(b) A qualitative component, based on an assessment by ERCOT of non-quantitative factors impacting credit risk, including but not limited to:

 (i) A material change of which ERCOT becomes aware;

(ii) Information obtained from a background check performed in accordance with Sections 16.2.1.1 or 16.8.1.1;

(iii) Information obtained in connection with the annual Counter-Party certification process, as described in Section 16.16.2;

(iv) Information obtained in connection with the risk framework verification process, as described in Section 16.16.3;

(v) For Counter-Parties or guarantors with public agency ratings, a credit rating upgrade or downgrade; or

(v) Any other information that ERCOT, in its sole discretion, considers relevant in making an assessment of creditworthiness.

(c) ERCOT, in its sole discretion, may reassess the qualitative component of the internal credit score at any time.

(d) Based on applicable updated information, a Counter-Party may request that the qualitative component of its credit score be updated at any time, and ERCOT may then choose to conduct a reassessment at its sole discretion. If ERCOT requests relevant information in support of the reassessment, the Counter-Party must provide such information within ten Business Days of the request.

(4) ERCOT shall utilize one or more internal financial scoring models to provide the quantitative assessment of Counter-Party creditworthiness.

(a) The scoring models will use financial metrics obtained from both audited and unaudited Counter-Party or, where applicable, guarantor financial statements provided in accordance with Section 16.11.2.

(b) For Counter-Parties or guarantors that are rated by S&P, Moody’s or Fitch, ERCOT may elect to substitute the agency issuer or long-term debt rating for the rating equivalent provided by the financial scoring model(s). If a Counter-Party’s or guarantor’s debt is rated by more than one of the referenced ratings agencies and the ratings fall within different rating categories which are not functional equivalents, ERCOT shall determine the proxy agency rating as follows:

(A) If there are three ratings and two of the three are functional equivalents, within the range where two of the three apply;

(B) If there are three ratings and all three are different, within the range where the average of the three ratings apply (rounded down); and

(C) If there are two ratings and the two are different, within the range of the lower of the two.

(c) As appropriate, ERCOT may utilize different financial scoring models applicable to different Market Participant industry segments.

(d) ERCOT will update each Counter-Party’s or guarantor’s financial model score within 60 days of receiving updated audited or unaudited financial statements.

(5) The methodology used in determining the ERCOT credit score shall be described in a credit scoring Other Binding Document. The Other Binding Document will specify the financial metrics and methodology utilized by the financial scoring model(s), as well as the relative weightings of the financial scoring model results and ERCOT’s qualitative assessment that determine the overall internal credit score for a Counter-Party.

(a) The Credit Work Group will review the methodology and parameters described in the credit scoring Other Binding Document no less often than annually.

(b) Revisions to the credit scoring Other Binding Document will be approved by the Credit Work Group and the Technical Advisory Committee (TAC). ERCOT shall implement approved revisions to the models on the first day of the month following TAC approval unless otherwise directed by TAC. ERCOT shall issue a Market Notice prior to implementation of a change to the credit scoring model.

***16.11.2 Requirements for Financial Statements***

(1) In support of ERCOT’s creditworthiness monitoring, 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.

16.11.3 Requirements for Setting a Counter-Party’s Unsecured Credit Limit

(1) The following terms used throughout this section are defined below:

(a) Times Interest Earnings Ratio (TIER) and Debt Service Coverage (DSC) ratios are as defined in 7 C.F.R § 1710.114 (2011).

(b) Maximum Debt to Total Capitalization Ratio is defined as: Long-term debt (including all current borrowings) / (Total shareholder’s equity + Long-term debt).

(c) EBITDA is defined as annual Earnings Before Interest, Depreciation and Amortization.

(d) CMLTD, Current Maturities of Long-Term Debt, is defined as the principal portions of long-term debt payable within the next twelve months.

(2) ERCOT, in its sole discretion, may set an Unsecured Credit Limit, not to exceed $50 million, for a Counter-Party if the Counter-Party meets the following requirements as applicable:

(a) If the Counter-Party is an Electric Cooperative (EC) that is not publicly rated by Standard and Poor’s (S&P), Fitch or Moody’s credit rating agencies, or has less than $100 million in Tangible Net Worth, and is a Rural Utilities Service (RUS) distribution borrower or power supply borrower as those terms are used in 7 C.F.R. § 1717.656 (2014); then the Unsecured Credit Limit shall be set within the range defined in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| If Counter-Party has | And | And | And | Then |
| Minimum Equity (Patronage Capital) | Minimum Times Interest Earnings Ratio (TIER) | Minimum Debt Service Coverage (DSC) | Minimum Equity to Assets | Maximum Unsecured Credit Limit as a Percentage of Total Assets minus Total Secured Debt |
| $25,000,000 | 1.00 | 1.00 | 0.15 | 0.00% to 5.00% |

(i) ERCOT shall apply these standards consistent with 7 C.F.R. § 1717.656 (3).

(ii) ERCOT shall utilize annual financial data only for the assessment for those ECs that fall within the scope of this subsection.

(iii) Unsecured Credit Limits for ECs that are publicly rated by S&P, Fitch or Moody’s and that have Tangible Net Worth greater than $100 million will be computed in accordance with item (c) below.

(iv) The amount of Unsecured Credit Limit established within the range in the table above is at the discretion of ERCOT if the stated criteria are met.

(b) If the Counter-Party is a Municipal Owned Utility (MOU) that is not publicly rated by S&P, Fitch or Moody’s, or has less than $100 million in Tangible Net Worth, the Unsecured Credit Limit shall be set within the range defined in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| If Counter-Party has | And | And | And | Then |
| Minimum Equity | Minimum Times Interest Earnings Ratio (TIER) | Minimum Debt Service Coverage (DSC) | Minimum Equity to Assets | Maximum Unsecured Credit Limit as a Percentage of Total Assets minus Total Secured Debt |
| $25,000,000 | 1.05 | 1.00 | 0.15 | 0.00% to 5.00% |

(i) ERCOT shall utilize annual financial data only for the assessment for those MOUs that fall within the scope of this subsection.

(ii) Unsecured Credit Limits for MOUs that are publicly rated by S&P, Fitch or Moody’s and that have Tangible Net Worth greater than $100 million will be computed in accordance with item (c) below.

(iii) The amount of the Unsecured Credit Limit established within the range in the table above is at the discretion of ERCOT if the stated criteria are met.

(c) If the Counter-Party is publicly rated by S&P, Fitch or Moody’s and has greater than $100 million in Tangible Net Worth, the Unsecured Credit Limit shall be set with the ranges defined in the following table:

| If Counter-Party has | And | Then |
| --- | --- | --- |
| Long-Term or Issuer Rating | Tangible Net Worth greater than | Maximum Unsecured Credit Limit as a percentage of Tangible Net Worth |
| Fitch/S&P | Moody’s |
| AAA | Aaa | $100,000,000 | 0.00% | to | 3.00% |
| AA+ | Aa1 | $100,000,000 | 0.00% | to | 2.95% |
| AA | Aa2 | $100,000,000 | 0.00% | to | 2.85% |
| AA- | Aa3 | $100,000,000 | 0.00% | to | 2.70% |
| A+ | A1 | $100,000,000 | 0.00% | to | 2.55% |
| A | A2 | $100,000,000 | 0.00% | to | 2.35% |
| A- | A3 | $100,000,000 | 0.00% | to | 2.10% |
| BBB+ | Baa1 | $100,000,000 | 0.00% | to | 1.80% |
| BBB | Baa2 | $100,000,000 | 0.00% | to | 1.40% |
| BBB- | Baa3 | $100,000,000 | 0.00% | to | 0.70% |
| Below BBB- | Below Baa3 | $100,000,000 | Requires Security |

(i) If a Counter-Party’s or guarantor’s debt is rated by more than one of the referenced rating agencies and all ratings fall within ratings categories which are functional equivalents, ERCOT shall assign an Unsecured Credit Limit or allow a guarantee for amounts within the range for that rating.

(ii) If a Counter-Party’s or guarantor’s debt is rated by more than one of the referenced ratings agencies and the ratings fall within different rating categories which are not functional equivalents, ERCOT shall assign an Unsecured Credit Limit or allow a guarantee for amounts as follows:

(A) If there are three ratings and two of the three are functional equivalents, within the range where two of the three apply;

(B) If there are three ratings and all three are different, within the range where the average of the three ratings apply (rounded down); and

(C) If there are two ratings and the two are different, within the range of the lower of the two.

(iii) ERCOT shall utilize annual financial data only for the assessment for those ECs and MOUs that fall within the scope of this subsection.

(iv) The amount of the Unsecured Credit Limit established within the range in the table above is at the discretion of ERCOT if the stated criteria are met.

(d) If the Counter-Party is a privately held company that is not publicly rated by S&P, Fitch or Moody’s, subject to its providing ERCOT with financial statements as specified in paragraph (1) of Section 16.11.5, Monitoring of a Counter-Party’s Creditworthiness and Credit Exposure by ERCOT, the Unsecured Credit Limit shall be set within the range defined in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| If Counter-Party has | And | And | And | Then |
| Tangible Net Worth | Minimum Current Ratio | Maximum Debt to Total Capitalization Ratio  | Minimum EBITDA to Interest and CMLTD | Maximum Unsecured Credit Limit as a percentage of Tangible Net Worth |
| $100,000,000 | 1.0 | 0.60 | 2.0 | 0.00% | to | 1.80% |

(i) The amount of the Unsecured Credit Limit established within the range in the table above is at the discretion of ERCOT if the stated criteria are met.

(e) As warranted by a change in a Counter-Party’s creditworthiness, ERCOT has the discretion to adjust Unsecured Credit Limits. ERCOT may notify a Counter-Party that its Unsecured Credit Limit is under review and, as appropriate, request additional information relevant to the assessment of the Counter-Party’s creditworthiness. Additional explanatory information requested by ERCOT must be provided within ten days, unless otherwise determined by ERCOT.

(f) ERCOT will provide a Counter-Party written Notice of a change to the Counter-Party’s Unsecured Credit Limit, including an explanation of the change, no less than five Bank Business Days before the effective date of the change. Unsecured Credit Limits may not be increased to amounts in excess of those specified in this Section.

16.11.5 Determination and Monitoring of Counter-Party Credit Exposure

16.11.5.1 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 that may be satisfied by any forms of Financial Security defined under paragraphs (1)(a) through (1)(d) of Section 16.11.4, Alternative Means of Satisfying ERCOT Creditworthiness Requirements. TPEA will include all exposure not included in TPES.

(b) TPES is the positive net exposure of the Counter-Party that may be satisfied only by forms of Financial Security defined under paragraphs (1)(b) through (1)(d) of Section 16.11.4. The Future Credit Exposure (FCE) that reflects the future mark-to-market value for CRRs registered in the name of the Counter-Party is included in TPES.

(2) For all Counter-Parties:

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

TPES = (Max [0, FCE *a*] + IA) \* EAFS

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) 25%, or such other percentage based on available statistics regarding payment default under bankruptcy reorganization plans, of any short payment amounts being repaid to ERCOT under a bankruptcy reorganization plan that are due more than one year from the date of the calculation.  |
| 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[{$\sum\_{e}^{ }\sum\_{i=1}^{96} \sum\_{p}^{ } $**[**L *i, od, p* \* RTSPP *i, od, p*]/*n*}, {$\sum\_{e}^{ } \sum\_{i=1}^{96} \sum\_{p}^{ } $**[[[**L *i, od, p* \* *T2***-** G *i, od, p* \* (1-*NUCADJ*) \* *T3*] \* RTSPP *i, od, p*] + [RTQQNET *i, od, p*\* *T5*]]**/***n*},  {$\sum\_{e}^{ } \sum\_{i=1}^{96} \sum\_{p}^{ } $**[**G *i, od, p* \* *NUCADJ* \* *T1* \* RTSPP *i, od, p***]/**n}, {$\sum\_{e}^{ } \sum\_{i=1}^{96} \sum\_{p}^{ } $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 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 |
| IMCE | $ | *Initial Minimum Current Exposure* IMCE = TOA \* (EFFCAP \* *nm* \* *cif%*)Where:EFFCAP = *Effective Cap.* The greater of Value of Lost Load (VOLL), as described in the Methodology for Implementing Operating Reserve Demand Curve (ORDC) to Calculate Real-Time Reserve Price Adder, or the SWCAP, as determined in accordance with Public Utility Commission of Texas (PUCT) Substantive Rules.  |
|

|  |  |  |  |
| --- | --- | --- | --- |
| [NPRR978: Replace the variable “IMCE” above with the following upon system implementation:]

|  |  |  |
| --- | --- | --- |
| 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. |
| EAFA | % | *Exposure Adjustment Factor - Any* – Adjustment that is made to ensure that TPEA adequately matches the financial risk created by that Counter-Party’s activities under these Protocols. The default value of EAFA is 100%, and may be increased to a maximum of 150%. |
| EAFS | % | *Exposure Adjustment Factor - Secured* – Adjustment that is made to ensure that TPEA adequately matches the financial risk created by that Counter-Party’s activities under these Protocols. The default value of EAFS is 100%, and may be increased to a maximum of 150%. |
| *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 by adjusting EAFA or EAFS as applicable. ERCOT may notify a Counter-Party that its TPEA or TPES is under review and, as appropriate, request additional information relevant to the assessment of the Counter-Party’s creditworthiness. Additional explanatory information requested by ERCOT must be provided within ten days, unless otherwise determined by ERCOT.

(4) 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 revision to the Counter-Party’s EAFA and/or EAFS. Notice shall be provided to the Counter-Party at least five Bank Business Days before the effective date of the change.

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

16.11.5.2 Determination of Counter-Party Initial Estimated Liability

(1) For each Counter-Party, except those Counter-Parties that are only CRR Account Holders, ERCOT shall determine an Initial Estimated Liability (IEL) for purposes of Section 16.11.4, Alternative Means of Satisfying ERCOT Creditworthiness Requirements.

(2) For a Counter-Party that has all its QSEs representing only LSEs, ERCOT shall calculate the IEL using the following formula:

**IEL = DEL \* Max [0.2, RTEFL] \* RTAEP \* (M1 + M2)**

The above variables are defined as follows:

|  |  |  |
| --- | --- | --- |
| Variable | Unit | Description |
| IEL | $ | *Initial Estimated Liability*⎯The Counter-Party’s Initial Estimated Liability. |
| DEL | MWh | *Daily Estimated Load*⎯The Counter-Party’s estimated average daily Load as determined by ERCOT based on information provided by the Counter-Party.  |
| RTEFL | none | *Real-Time Energy Factor for Load*⎯The ratio of the Counter-Party’s estimated energy purchases in the RTM as determined by ERCOT based on information provided by the Counter-Party, to the Counter-Party’s Daily Estimated Load. |
| RTAEP | $/MWh | *Real-Time Average Energy Price*⎯Average Settlement Point Price for the “ERCOT 345” as defined in Section 3.5.2.5, ERCOT Hub Average 345 kV Hub (ERCOT 345), based upon the previous seven days’ average Real-Time Settlement Point Prices.  |

(3) For a Counter-Party that has all its QSEs representing only Resources, ERCOT shall calculate the IEL using the following formula:

**IEL = DEG \* Max [0.2, RTEFG] \* RTAEP \* (M1 + M2)**

The above variables are defined as follows:

| Variable | Unit | Description |
| --- | --- | --- |
| IEL | $ | *Initial Estimated Liability*⎯The Counter-Party’s Initial Estimated Liability. |
| DEG | MWh | *Daily Estimated Generation*⎯The Counter-Party’s estimated average daily generation as determined by ERCOT based on information provided by the Counter-Party. |
| RTEFG | none | *Real-Time Energy Factor for Generation*⎯The ratio of the Counter-Party’s QSE to QSE estimated energy sales as determined by ERCOT based on information provided by the Counter-Party, to the Counter-Party’s Daily Estimated Generation. |
| RTAEP | $/MWh | *Real-Time Average Energy Price*⎯Average Settlement Point Price for the “ERCOT 345” as defined in Section 3.5.2.5 based upon the previous seven days average Real-Time Settlement Point Prices. |

(4) For a Counter-Party that has QSEs representing both LSE and Resources, ERCOT shall calculate the Counter-Party’s IEL using the following formula:

**IEL = DEL \* Max [0.1, RTEFL] \* RTAEP** \* **(M1 + M2) + DEG \* Max [0.1, RTEFG] \* RTAEP \* (M1 + M2)**

The above variables are defined as follows:

| Variable | Unit | Description |
| --- | --- | --- |
| IEL | $ | *Initial Estimated Liability*⎯The Counter-Party’s Initial Estimated Liability. |
| DEL | MWh | *Daily Estimated Load*⎯The Counter-Party’s estimated average daily Load as determined by ERCOT based on information provided by the Counter-Party. |
| DEG | MWh | *Daily Estimated Generation*⎯The Counter-Party’s estimated average daily generation as determined by ERCOT based on information provided by the Counter-Party. |
| RTEFL | none | *Real-Time Energy Factor for Load*⎯The ratio of the Counter-Party’s estimated energy purchases in the RTM as determined by ERCOT based on information provided by the Counter-Party, to the Counter-Party’s Daily Estimated Load. |
| RTAEP | $/MWh | *Real-Time Average Energy Price*⎯Average Settlement Point Price for the “ERCOT 345” as defined in Section 3.5.2.5 based upon the previous seven days’ average Real-Time Settlement Point Prices. |
| RTEFG | none | *Real-Time Energy Factor for Generation*—The ratio of the Counter-Party’s QSE to QSE estimated energy sales as determined by ERCOT, based on information provided by the Counter-Party, to the Counter-Party’s Daily Estimated Generation. |

(5) For a Counter-Party that has all its QSEs representing neither Load nor generation, and that is not representing a CRR Account Holder, the IEL is equal to IMCE as defined in paragraph (2) of Section 16.11.5.1, Determination of Total Potential Exposure for a Counter-Party.

(6) For a Counter-Party that is only a CRR Account Holder and is not a QSE, the IEL is zero.

16.11.5.3 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 for a QSE that represents either Load or generation* —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 DaysWhere:*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 DaysWhere:*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* + CARDWhere: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 16.11.5.3.1, 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 is eligible for unsecured credit under Section 16.11.2, Requirements for Setting a Counter-Party’s Unsecured Credit Limit, or 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 16.11.5.3.3, Forward Adjustment Factors. |
| DFAF | None | *Day-Ahead Forward Adjustment Factor*—The adjustment factor for DAM-related forward exposure as defined in Section 16.11.5.3.3. |
| *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 |
| *M1a* | 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. |

16.11.6 Requirements for Maintenance of Financial Security

 (1)

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

(a) Secured Collateral 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 plus Financial Security defined as guarantees in paragraph (a) of Section 16.11.4 in an amount equal to or greater than that Counter-Party’s

(i) TPEA; minus

(ii) Unsecured Credit Limit.

(3) ERCOT shall promptly notify each Counter-Party of the need to increase its Financial Security, including whether Secured Collateral must be provided, 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 16.11.5, 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 16.11.5, equals or exceeds 100% of its Secured Collateral; or

(b) That Counter-Party’s TPEA as defined in Section 16.11.5 equals or exceeds 100% of the sum of its Unsecured Credit Limit and 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 16.11.5.

(6) To the extent that a Counter-Party fails to maintain Secured Collateral 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 16.11.5:

(a) ERCOT shall promptly notify the Counter-Party of the amount by which its Financial Security must be increased, including whether Secured Collateral must be provided 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, including any Secured Collateral required. 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, including any Secured Collateral required. 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.