



Item 4: Periodic Report on Credit Work Group Activity

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Chair, Credit Work Group

Finance & Audit Committee Meeting

ERCOT Public
October 7, 2019

Credit Work Group Update – Reviewed NPRRs

- **NPRRs Reviewed Without Credit Impact**

- NPRR 849 – Clarification of the Range of Voltage Set Points at a Generation Resource's POI
- NPRR 902 – ERCOT Critical Energy Infrastructure Information
- NPRR 918 – Validation for PTP Obligations with Links to an Option
- NPRR 937 – Distribution Voltage Level Block Load Transfer (BLT) Deployment
- NPRR 941 – Create a Lower Rio Grande Valley Hub
- NPRR 950 – Switchable Generation Resources Providing Black Start Service
- NPRR 957 – RTF-4 Definition of Energy Storage Resource and Related Registration and Telemetry Requirements
- NPRR 958 – Modifications to Wind and Solar Capacity Calculations in the CDR
- NPRR 959 – Creation of a Panhandle Region for Calculation of Seasonal Peak Average Capacity Contributions for Wind
- NPRR 960 – Phased Approach and Clarifications for NPRR 863, Creation of ERCOT Contingency Reserve Service and Revisions to Responsive Reserve

Credit Work Group Update – Reviewed NPRRs

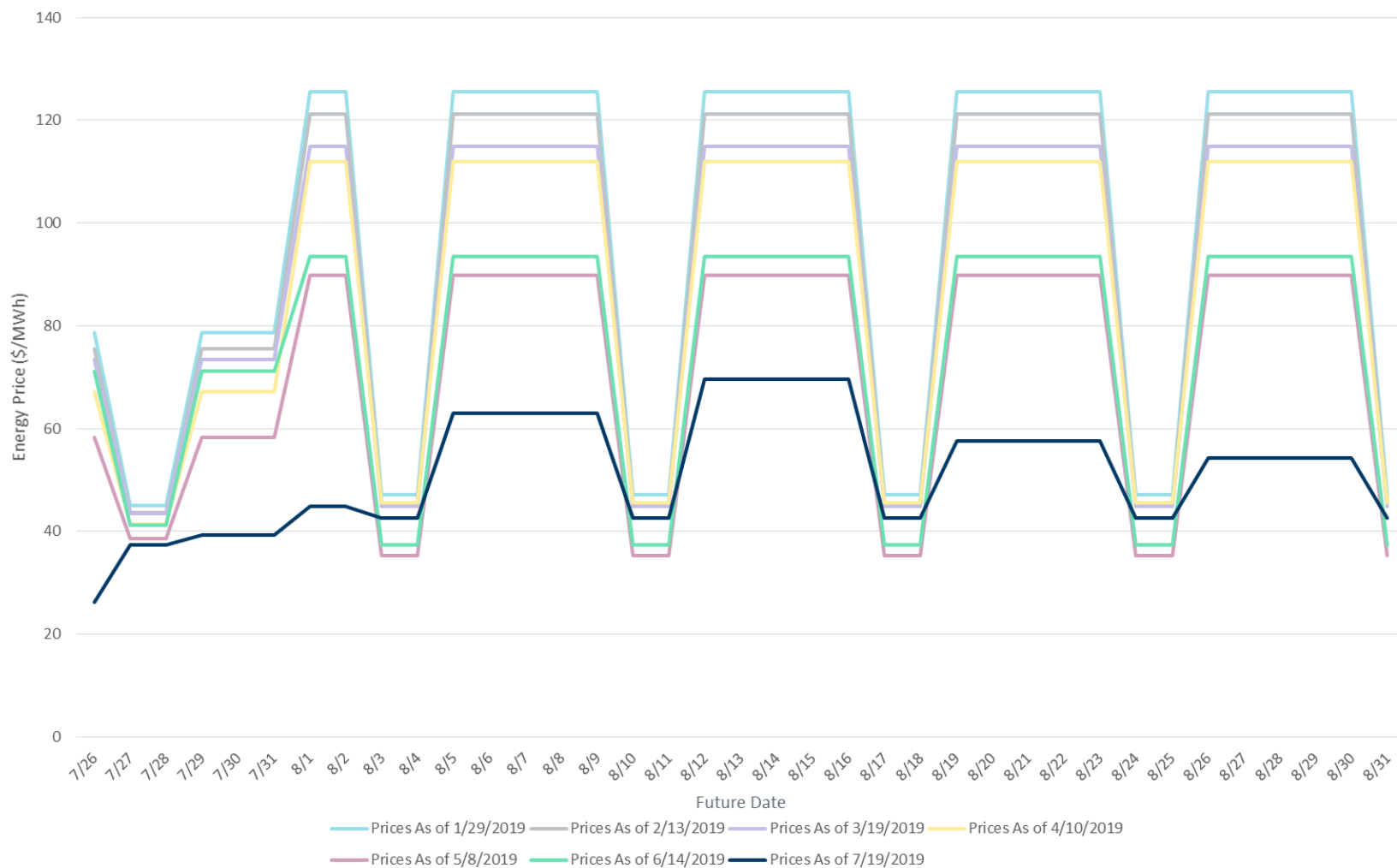
- **NPRRs Reviewed Without Credit Impact (continued)**
 - NPRR 961 – Related to NOGRR194, Relocate Black Start Training Attendance Requirements to Nodal Operating Guides
 - NPRR 962 – Publish Approved DC Tie Schedules
 - NPRR 965 – GREDP Shutdown Exemption
 - NPRR 968 – Revise EEA Level 3 Triggers from 1375 MW to 1430 MW to Align with New Most Severe Single Contingency Value
 - NPRR 969 – Clean-up of Protocol 19.8, Retail Market Testing
- **NPRRs Reviewed With Credit Impact**
 - NPRR 930 – Process, Pricing, and Cost Recovery for Delayed Resource Outages
 - The Credit Work Group has determined the changes proposed in NPRR930 make parties whole that could be financially harmed by the previous process, and therefore NPRR930 has positive credit implications.

Credit Exposure Update

August 2019 compared to July 2019

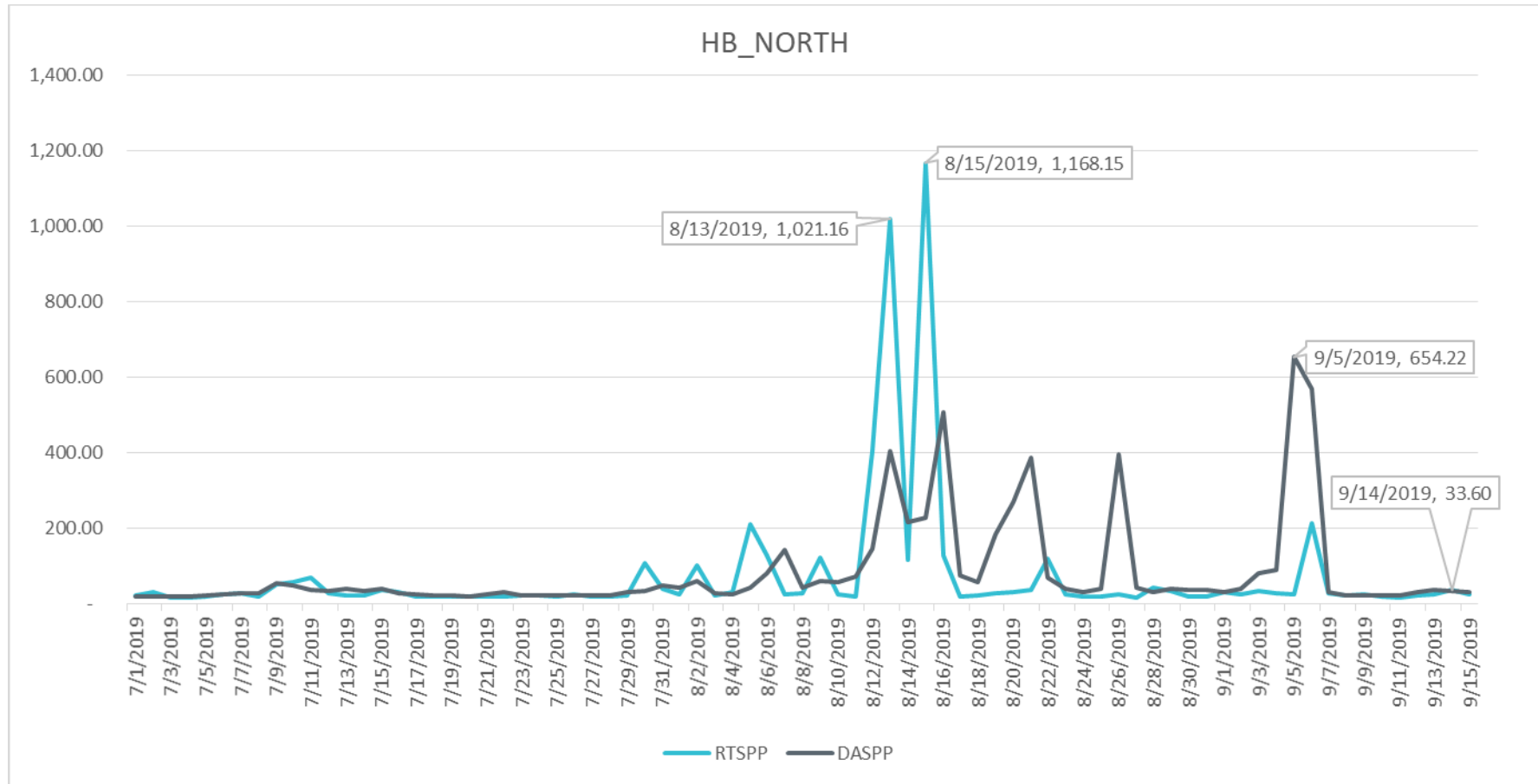
- Market-wide average TPE increased from \$495.01 million to \$ 1,020.1 million
- The increase in TPE is due to relatively high ERCOT Real Time and Day Ahead prices during August 2019
- Discretionary Collateral is defined as Secured Collateral in excess of TPE, CRR Locked ACL and DAM Exposure
- Average Discretionary Collateral increased from \$ 1,219.8 million to \$1,730.5 million
- The increase in Discretionary Collateral is largely due to increase in Secured Collateral
- The increase in Secured Collateral more than offsets the increase in TPE and CRR Locked ACL
- Number of active Counter-Parties increased from 238 to 241
- Relatively high collateral call activity in August 2019 compared to July 2019

ICE Daily Average Prices Jul 2019 - Aug 2019 (as traded through July 2019)

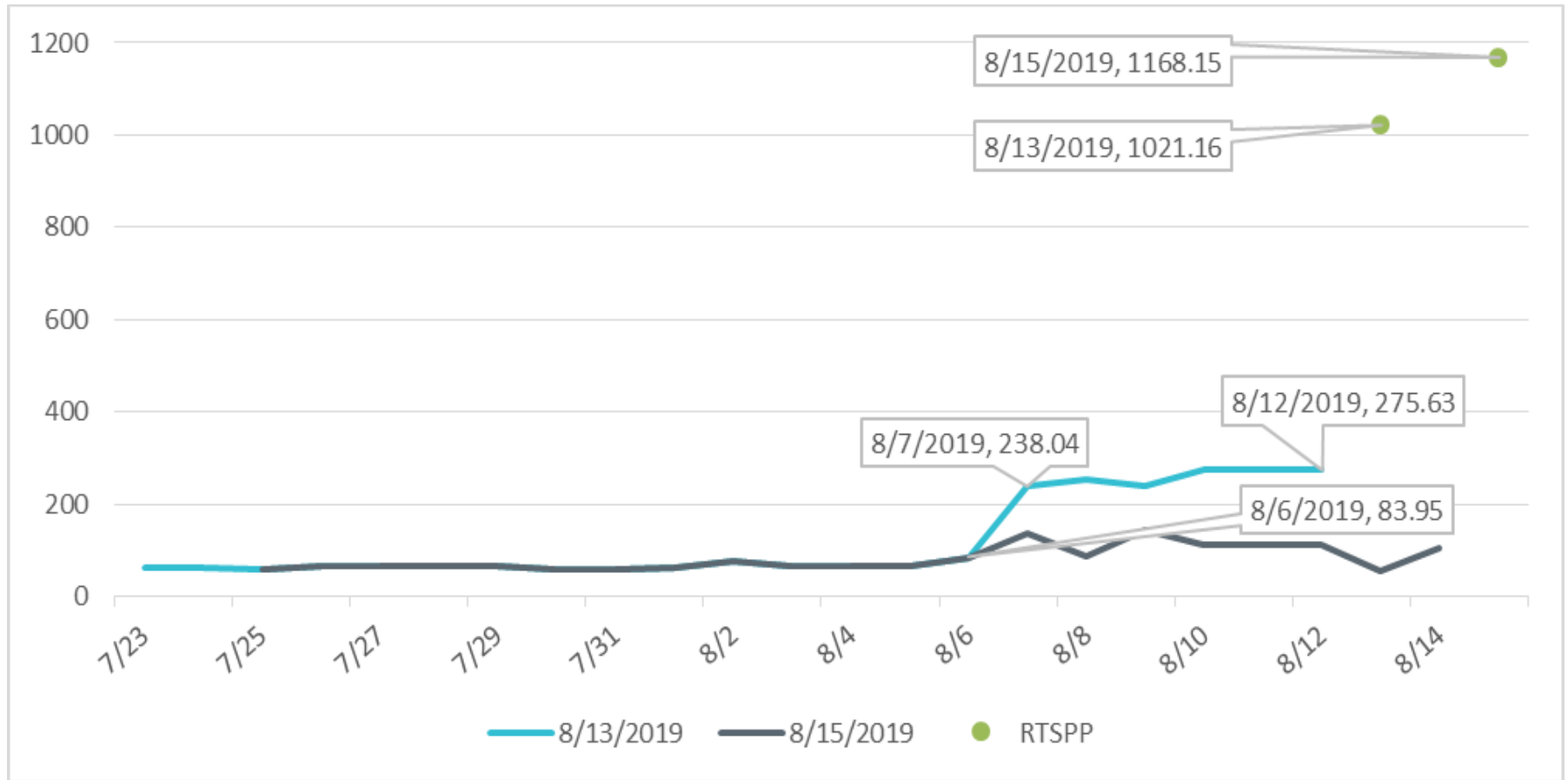


*Daily Average Price = (Peak price*16 +Off-Peak price*8)/24

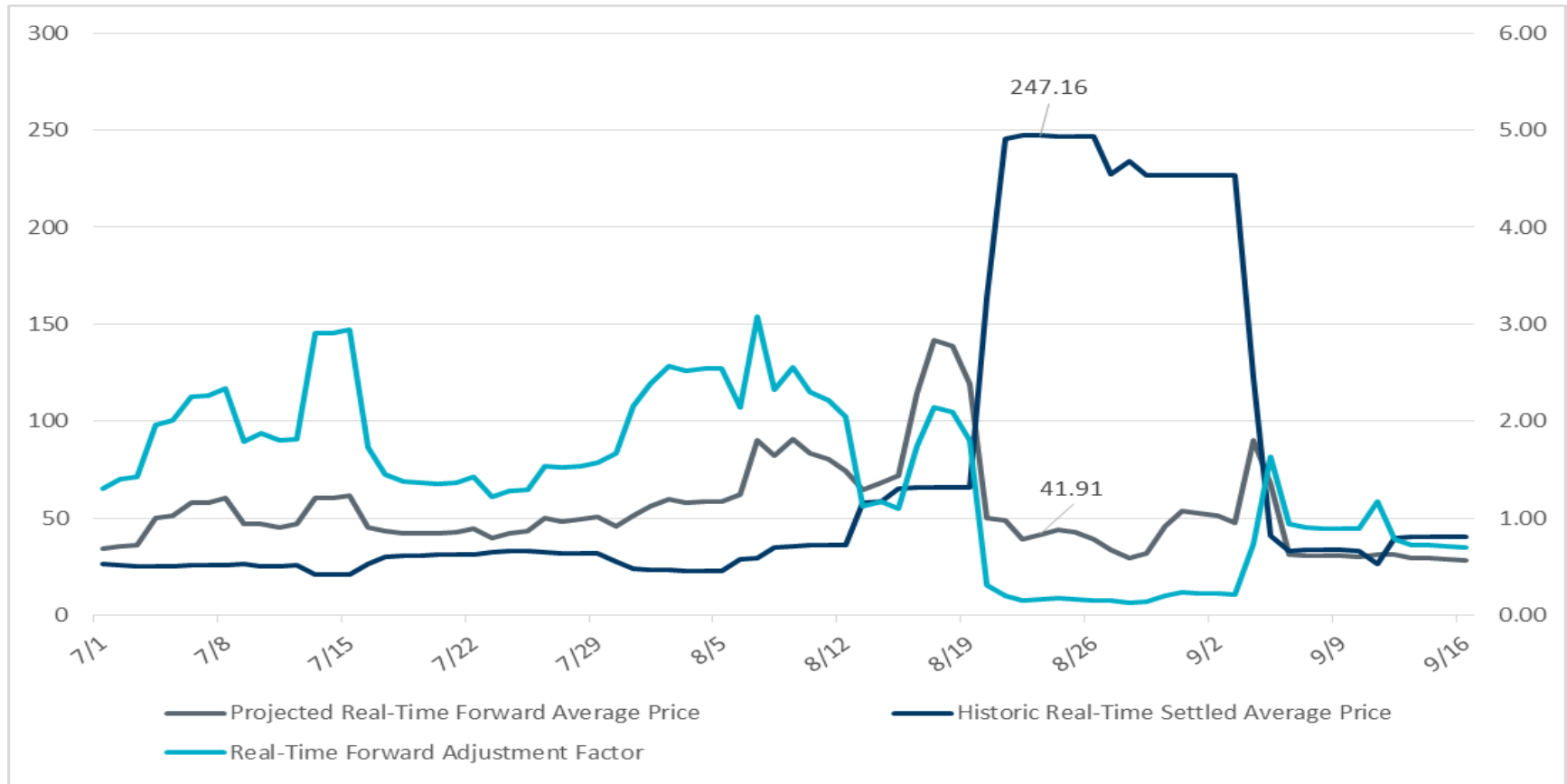
Real-Time and Day-Ahead Settlement Point Prices July 2019- September 2019



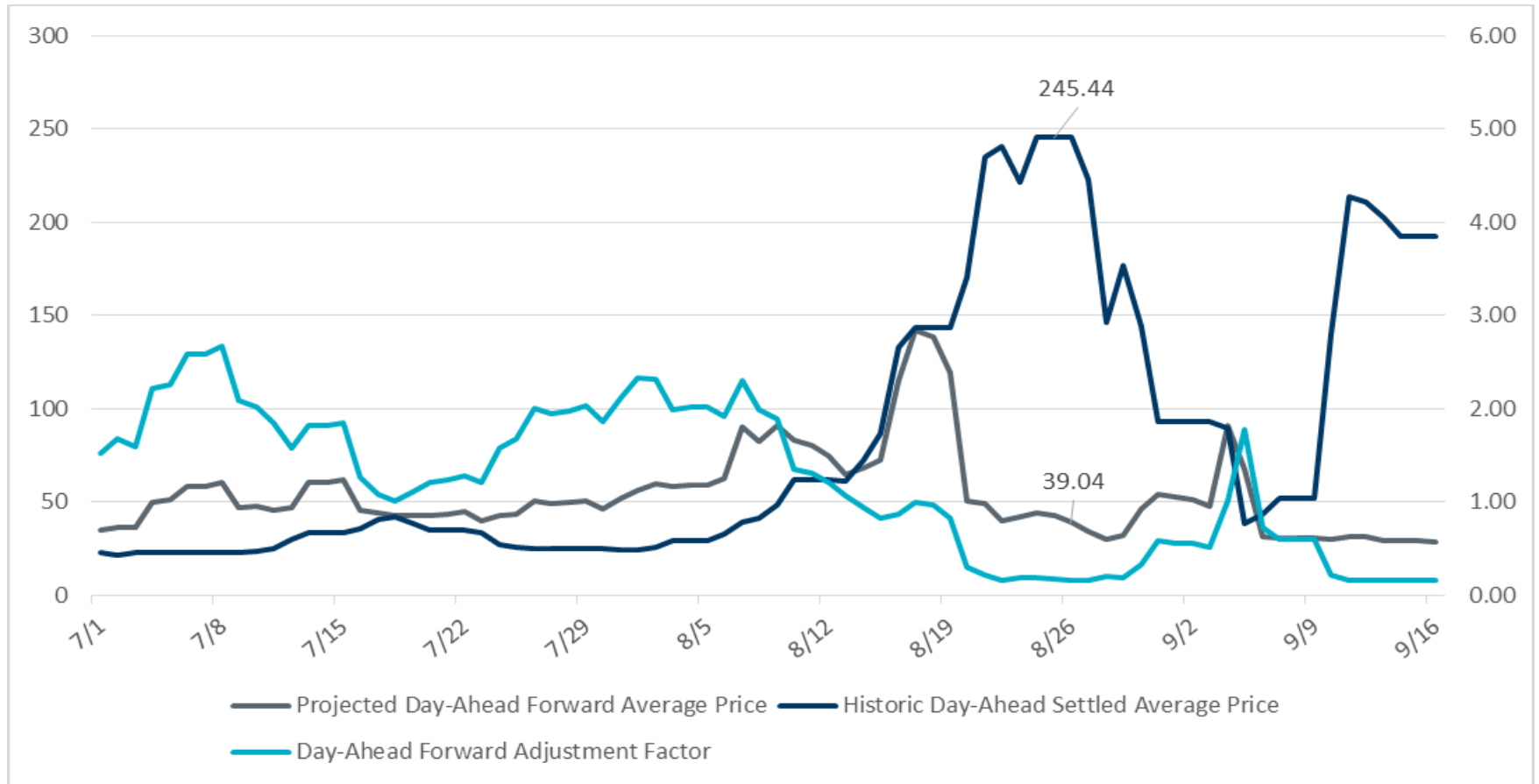
ICE vs ERCOT Real Time Prices for HB_NORTH



Real-Time Forward Adjustment Factor Jul 2019 - Sep 2019

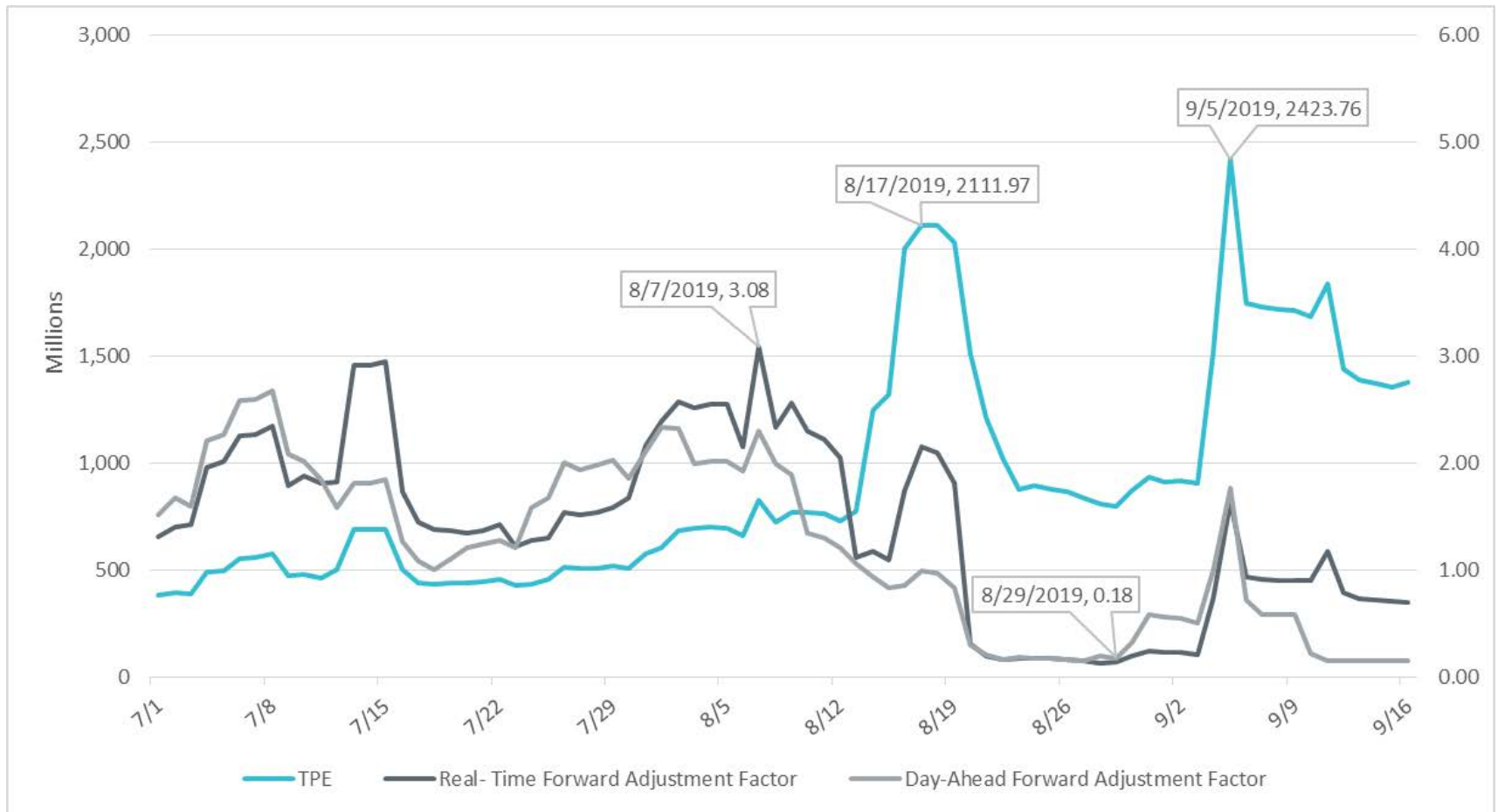


Day-Ahead Forward Adjustment Factor Jul 2019 - Sep 2019



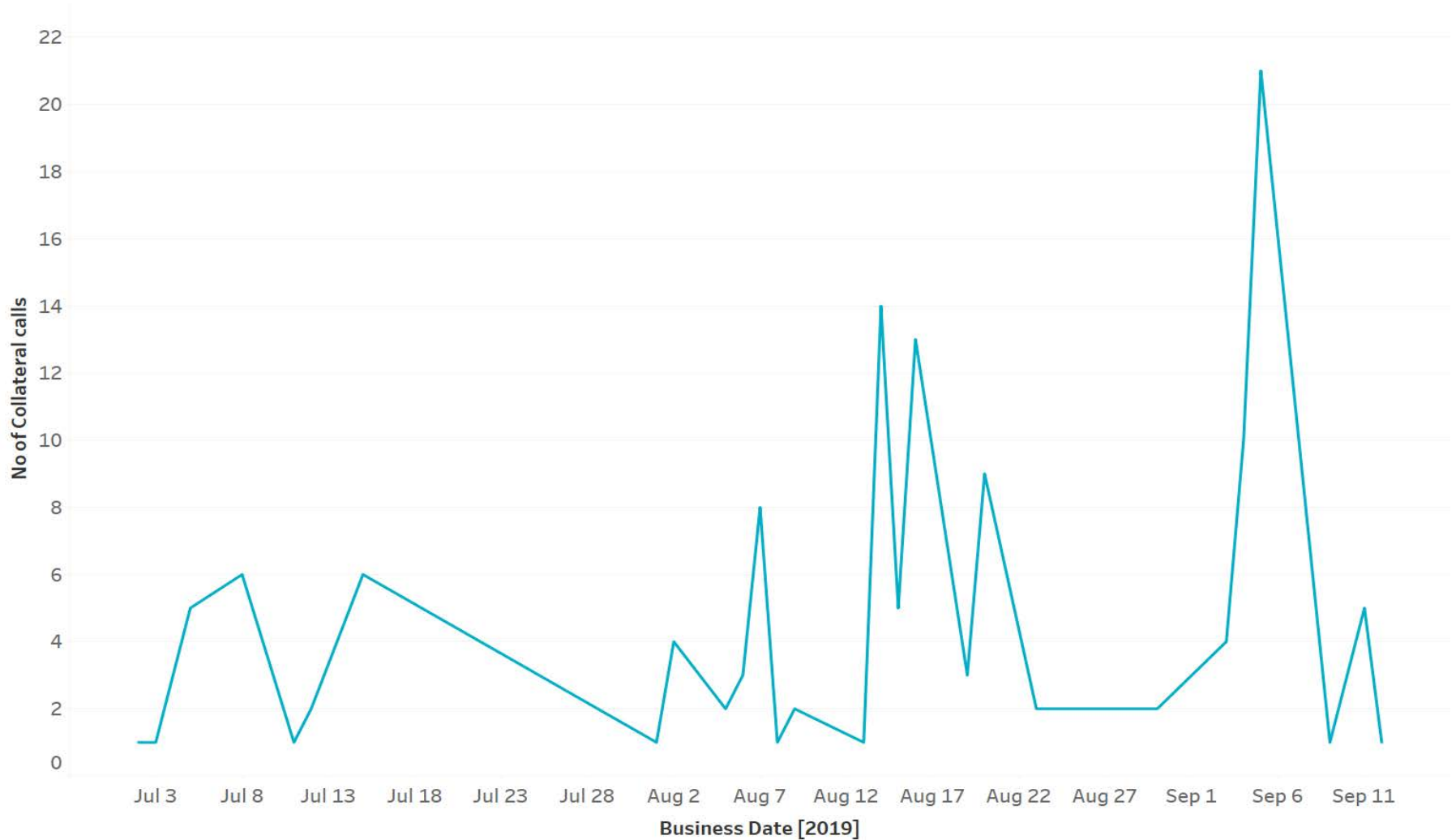
TPE and Forward Adjustment Factors Jul - Aug 2019

TPE moved in conjunction with forward adjustment factors



The Real-Time (RFAF) and Day-Ahead (DAFAF) forward adjustment factors capture the ratio of forward ERCOT North prices to actual prices.

Collateral Calls July 2019 - September 2019



ERCOT Default/Uplift

Axon Power

On August 30, 2019, Axon Power (Axon), a competitive Retail Electric Provider (REP), failed to make payment on a Settlement Invoice (which was issued on August 28, 2019). ERCOT had insufficient Financial Security for Axon to pay the invoice. This resulted in a short payment to the marketplace in an amount of \$54,002.29. On September 3, 2019, ERCOT initiated the process to draw from available Financial Security provided by Axon to pay the invoice.

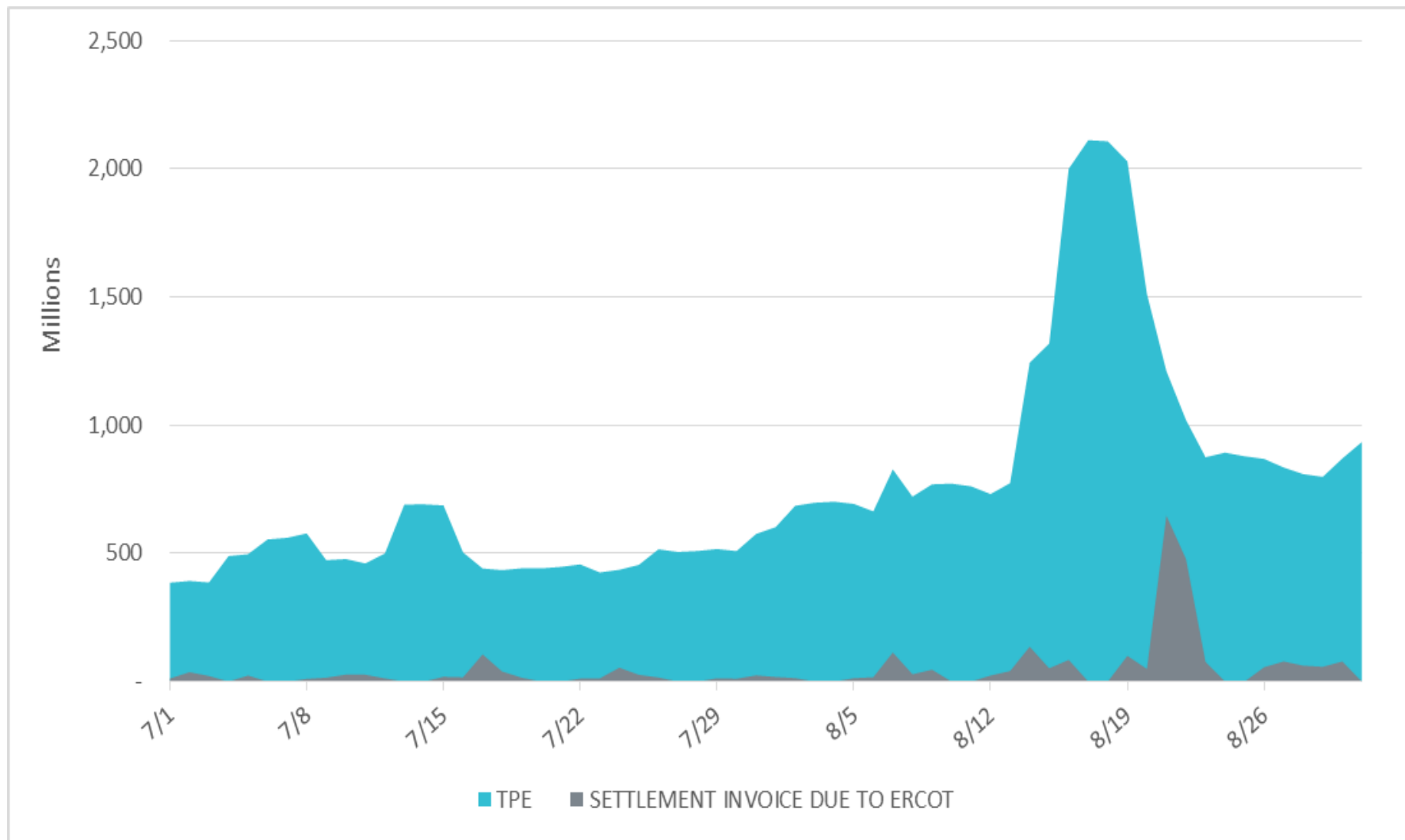
On September 4, 2019, ERCOT received funds for the outstanding Settlement Invoice and issued refunds to QSEs and CRRAs that were impacted by the short payment on September 3, 2019.

Sparcnet LLC

On September 6, 2019, Sparcnet LLC (Sparcnet), a Trader, defaulted under its Standard Form Agreement (SFA) with ERCOT due to non-payment of collateral (which was due on September 5). In addition, ERCOT had insufficient Financial Security to pay Sparcnet's outstanding Settlement Invoice that was due on September 11. As a result, the marketplace was short paid on September 12, 2019, in an amount of \$104,850.68.

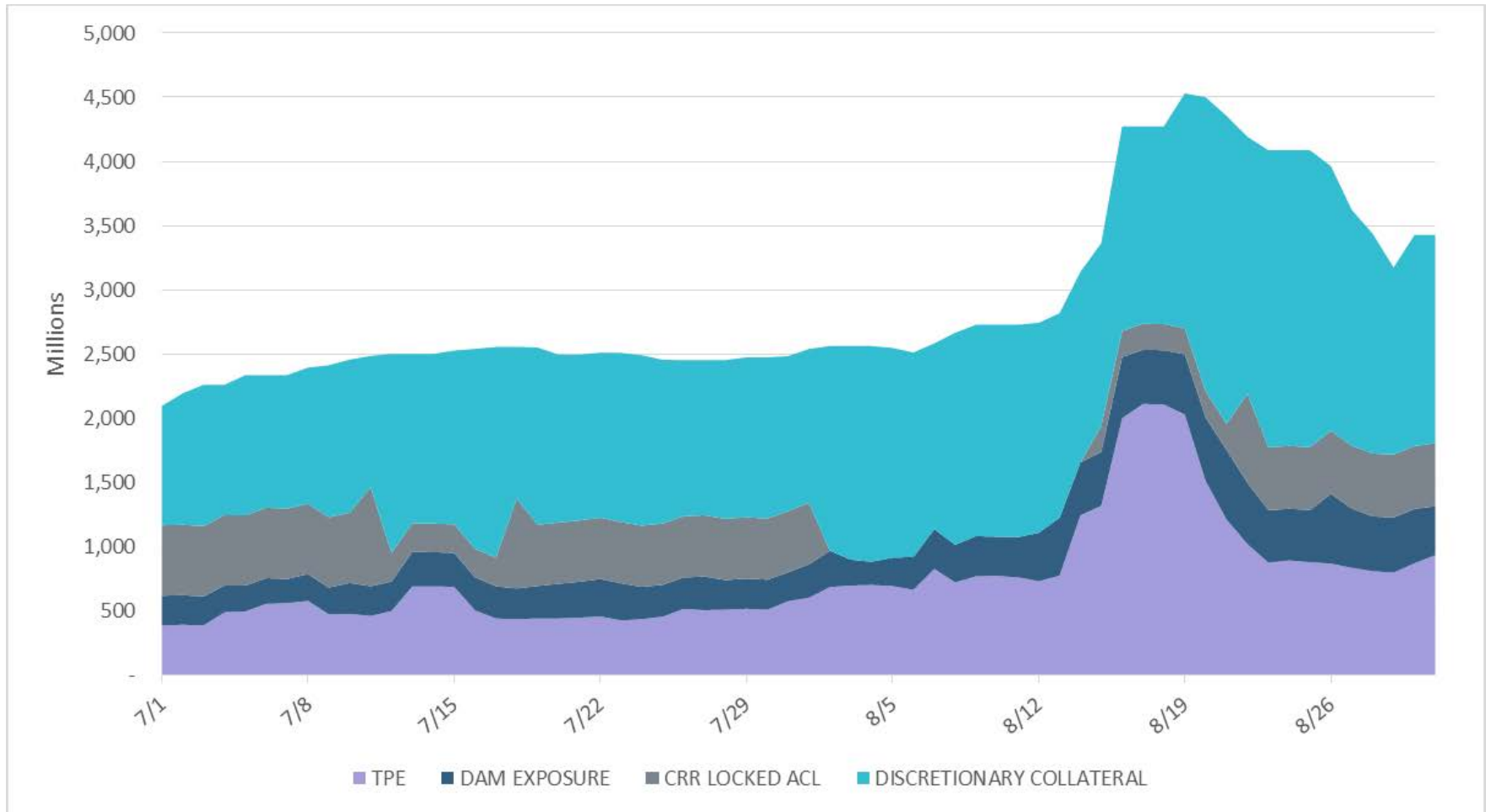
In accordance with Section 9.19, ERCOT will uplift \$104,850.68 to the market no earlier than 180 days after the Sparcnet short payment.

Settlement Invoice Charges / Total Potential Exposure Jul 2019 - Aug 2019



Discretionary Collateral Jul 2019 - Aug 2019

At a Counter-Party level, no unusual changes were noted



Note: Discretionary collateral doesn't include Unsecured Credit Limit or parent guarantees

Counter-Party Credit Changes Jul – Aug 2019

| Category | Counter-Party Distribution | | | Average TPE Distribution | | | Average Excess Collateral Distribution | | |
|-----------------|----------------------------|--------|--------|--------------------------|--------|---------|--|--------|--------|
| | Jul-19 | Aug-19 | Change | Jul-19 | Aug-19 | Change | Jul-19 | Aug-19 | Change |
| CRR Only | 11.34% | 12.86% | 1.52% | 1.10% | 0.63% | -0.47% | 2.30% | 2.13% | -0.17% |
| Generation Only | 14.29% | 14.94% | 0.65% | 5.09% | 7.44% | 2.35% | 1.85% | 6.41% | 4.56% |
| Load Only | 13.45% | 14.11% | 0.66% | 20.70% | 17.09% | -3.60% | 10.95% | 12.65% | 1.70% |
| Load and Gen | 13.03% | 12.03% | -0.99% | 47.67% | 59.72% | 12.05% | 61.98% | 60.21% | -1.78% |
| Trader | 47.90% | 46.06% | -1.84% | 25.44% | 15.12% | -10.33% | 22.92% | 18.60% | -4.31% |

| Rating Group | Counter-Party Distribution | | | Average TPE Distribution | | | Average Excess Collateral Distribution | | |
|----------------------|----------------------------|--------|--------|--------------------------|--------|--------|--|--------|--------|
| | Jul-19 | Aug-19 | Change | Jul-19 | Aug-19 | Change | Jul-19 | Aug-19 | Change |
| AAA | 0.42% | 0.00% | -0.42% | 0.03% | 0.00% | -0.03% | 0.05% | 0.0% | -0.05% |
| AA- to AA+ | 4.20% | 4.15% | -0.05% | 2.57% | 2.85% | 0.29% | 1.40% | 1.4% | 0.01% |
| A- to A+ | 7.14% | 6.64% | -0.50% | 15.87% | 22.80% | 6.92% | 22.43% | 20.0% | -2.45% |
| BBB- to BBB+ | 11.34% | 12.03% | 0.69% | 21.80% | 20.88% | -0.92% | 26.26% | 28.7% | 2.44% |
| BB- to BB+ | 2.94% | 2.90% | -0.04% | 22.33% | 22.33% | 0.00% | 12.61% | 11.8% | -0.81% |
| B- to B+ | 2.10% | 2.07% | -0.03% | 1.68% | 1.74% | 0.06% | 1.44% | 2.0% | 0.55% |
| CCC+ and below | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.0% | 0.00% |
| Not Rated | 71.85% | 72.20% | 0.35% | 35.72% | 29.40% | -6.32% | 35.81% | 36.1% | 0.30% |
| Investment Grade | 23.11% | 22.82% | -0.29% | 40.26% | 46.53% | 6.26% | 50.13% | 50.10% | -0.04% |
| Non-investment Grade | 76.89% | 77.18% | 0.29% | 59.74% | 53.47% | -6.26% | 49.87% | 49.90% | 0.04% |

Counter-Party Credit Exposure – August 2019

| Rating Group | CRR Only | Generation Only | Load Only | Load and Generation | Trader | Total TPE | Percent TPE |
|-----------------------------|------------------|-------------------|--------------------|---------------------|--------------------|----------------------|----------------|
| AAA | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| AA- to AA+ | 780,277 | 0 | 1,144,426 | 27,193,201 | 0 | 29,117,905 | 2.85% |
| A- to A+ | 82,174 | 32,860,160 | 11,943,520 | 181,790,175 | 5,856,655 | 232,532,683 | 22.80% |
| BBB- to BBB+ | 9,791 | 21,737,135 | 32,092,947 | 110,142,492 | 48,998,711 | 212,981,076 | 20.88% |
| Investment Grade | 872,242 | 54,597,295 | 45,180,893 | 319,125,868 | 54,855,366 | 474,631,664 | 46.53% |
| BB- to BB+ | 0 | 0 | 19,228,475 | 182,282,141 | 26,262,403 | 227,773,018 | 22.33% |
| B- to B+ | 0 | 109,629 | 0 | 17,518,031 | 101,409 | 17,729,068 | 1.74% |
| CCC+ and below | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| Not Rated | 5,559,859 | 21,198,392 | 109,962,808 | 90,244,783 | 72,982,855 | 299,948,698 | 29.40% |
| Non-Investment Grade | 5,559,859 | 21,308,021 | 129,191,283 | 290,044,955 | 99,346,666 | 545,450,785 | 53.47% |
| Total TPE | 6,432,102 | 75,905,316 | 174,372,176 | 609,170,823 | 154,202,032 | 1,020,082,448 | 100.00% |
| Percent TPE | 0.63% | 7.44% | 17.09% | 59.72% | 15.12% | 100.00% | |

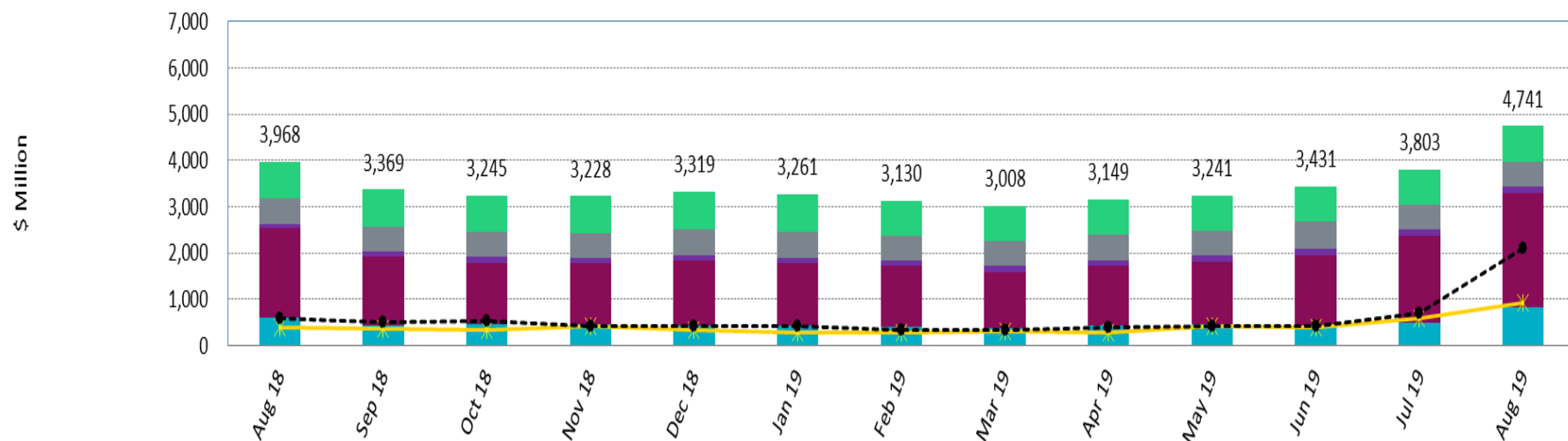
| Rating Group | CRR Only | Generation Only | Load Only | Load and Generation | Trader | Excess Collateral | Percent Excess Collateral |
|----------------------------------|-------------------|--------------------|--------------------|----------------------|--------------------|----------------------|---------------------------|
| AAA | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| AA- to AA+ | 5,813,826 | 0 | 19,969,594 | 14,887,444 | 0 | 40,670,864 | 1.41% |
| A- to A+ | 14,034,958 | 60,881,837 | 58,904,867 | 390,531,106 | 51,943,347 | 576,296,114 | 19.99% |
| BBB- to BBB+ | 10,140,209 | 108,727,008 | 84,446,000 | 457,071,772 | 167,147,539 | 827,532,528 | 28.70% |
| Investment Grade | 29,988,992 | 169,608,844 | 163,320,461 | 862,490,322 | 219,090,885 | 1,444,499,505 | 50.10% |
| BB- to BB+ | 0 | 0 | 30,776,591 | 293,918,878 | 15,610,139 | 340,305,608 | 11.80% |
| B- to B+ | 0 | 734,443 | 0 | 53,965,840 | 2,745,760 | 57,446,043 | 1.99% |
| CCC+ and below | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| Not Rated | 31,517,851 | 14,490,258 | 170,570,067 | 525,641,713 | 299,013,975 | 1,041,233,863 | 36.11% |
| Non-Investment Grade | 31,517,851 | 15,224,701 | 201,346,658 | 873,526,431 | 317,369,874 | 1,438,985,514 | 49.90% |
| Total Excess Collateral | 61,506,843 | 184,833,545 | 364,667,119 | 1,736,016,753 | 536,460,759 | 2,883,485,019 | 100.00% |
| Percent Excess Collateral | 2.13% | 6.41% | 12.65% | 60.21% | 18.60% | 100.00% | |

Counter-Party Credit Exposure – August 2019 Average TPE and Excess Collateral for the Bottom Quintile of Market Participants

| Rating Group | CRR Only | Generation Only | Load Only | Load and Generation | Trader | Quintile Average TPE | Percent Quintile Average TPE | Percent Total Average TPE |
|-------------------------------------|------------------|-----------------|------------------|---------------------|------------------|----------------------|------------------------------|---------------------------|
| AAA | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.00% |
| AA- to AA+ | 9,056 | 0 | 0 | 0 | 0 | 9,056 | 0.1% | 0.00% |
| A- to A+ | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.00% |
| BBB- to BBB+ | 9,791 | 502 | 0 | 0 | 0 | 10,293 | 0.1% | 0.00% |
| Investment Grade | 18,848 | 502 | 0 | 0 | 0 | 19,350 | 0.3% | 0.00% |
| BB- to BB+ | 0 | 0 | 0 | 0 | 40,500 | 40,500 | 0.6% | 0.00% |
| B- to B+ | 0 | 0 | 0 | 0 | 40,662 | 40,662 | 0.6% | 0.00% |
| CCC+ and below | 0 | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.00% |
| Not Rated | 1,021,766 | 489,266 | 2,358,738 | 202,038 | 3,008,532 | 7,080,339 | 98.6% | 0.69% |
| Non-Investment Grade | 1,021,766 | 489,266 | 2,358,738 | 202,038 | 3,089,694 | 7,161,501 | 99.73% | 0.70% |
| Quintile Average TPE | 1,040,613 | 489,768 | 2,358,738 | 202,038 | 3,089,694 | 7,180,850 | 100.0% | 0.70% |
| Percent Quintile Average TPE | 14.5% | 6.8% | 32.8% | 2.8% | 43.0% | 100.0% | | |
| Percent Total Average TPE | 0.10% | 0.05% | 0.23% | 0.02% | 0.30% | 0.70% | | |

| Rating Group | CRR Only | Generation Only | Load Only | Load and Generation | Trader | Total Quintile Excess Collateral | Percent Quintile Excess Collateral | Percent Total Excess Collateral |
|---|------------------|-----------------|----------------|---------------------|------------------|----------------------------------|------------------------------------|---------------------------------|
| AAA | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% | 0.00% |
| AA- to AA+ | 246,280 | 0 | 0 | 0 | 0 | 246,280 | 5.61% | 0.01% |
| A- to A+ | 117,131 | 0 | 0 | 0 | 0 | 117,131 | 2.67% | 0.00% |
| BBB- to BBB+ | 140,209 | 102,995 | 0 | 0 | 0 | 243,204 | 5.54% | 0.01% |
| Investment Grade | 503,620 | 102,995 | 0 | 0 | 0 | 606,615 | 13.82% | 0.02% |
| BB- to BB+ | 0 | 0 | 0 | 0 | 132,039 | 132,039 | 3.01% | 0.00% |
| B- to B+ | 0 | 0 | 0 | 0 | 48,441 | 48,441 | 1.10% | 0.00% |
| CCC+ and below | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% | 0.00% |
| Not Rated | 663,377 | 356,108 | 561,349 | 202,981 | 1,817,973 | 3,601,789 | 82.07% | 0.12% |
| Non-Investment Grade | 663,377 | 356,108 | 561,349 | 202,981 | 1,998,454 | 3,782,269 | 86.18% | 0.13% |
| Total Quintile Excess Collateral | 1,166,997 | 459,103 | 561,349 | 202,981 | 1,998,454 | 4,388,884 | 100.00% | 0.15% |
| Percent Quintile Excess Collateral | 26.59% | 10.46% | 12.79% | 4.62% | 45.53% | 100.00% | | |
| Percent Total Excess Collateral | 0.04% | 0.02% | 0.02% | 0.01% | 0.07% | 0.15% | | |

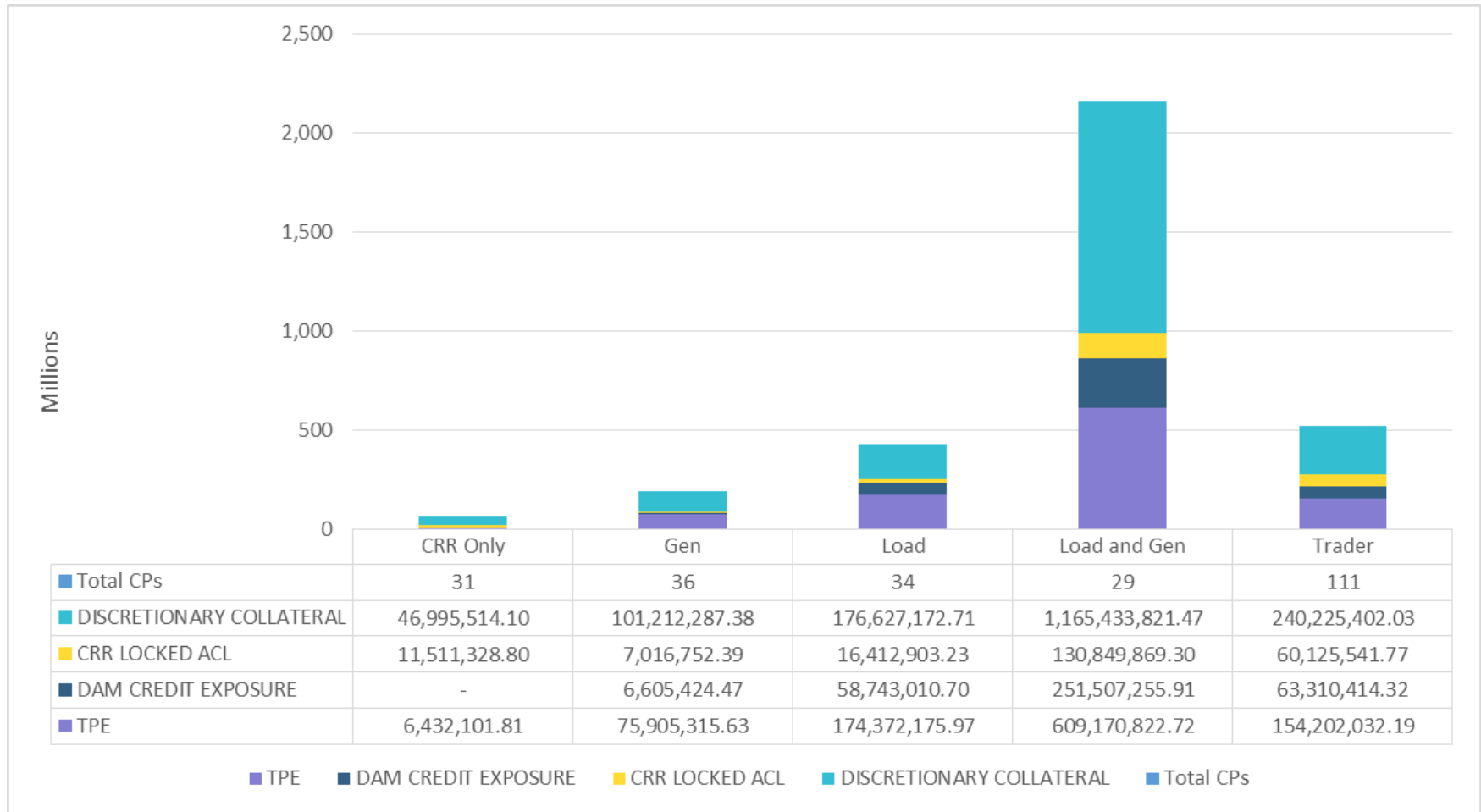
Available Credit by Type Compared to Total Potential Exposure (TPE)



*Numbers are as of month ended except for Max TPE

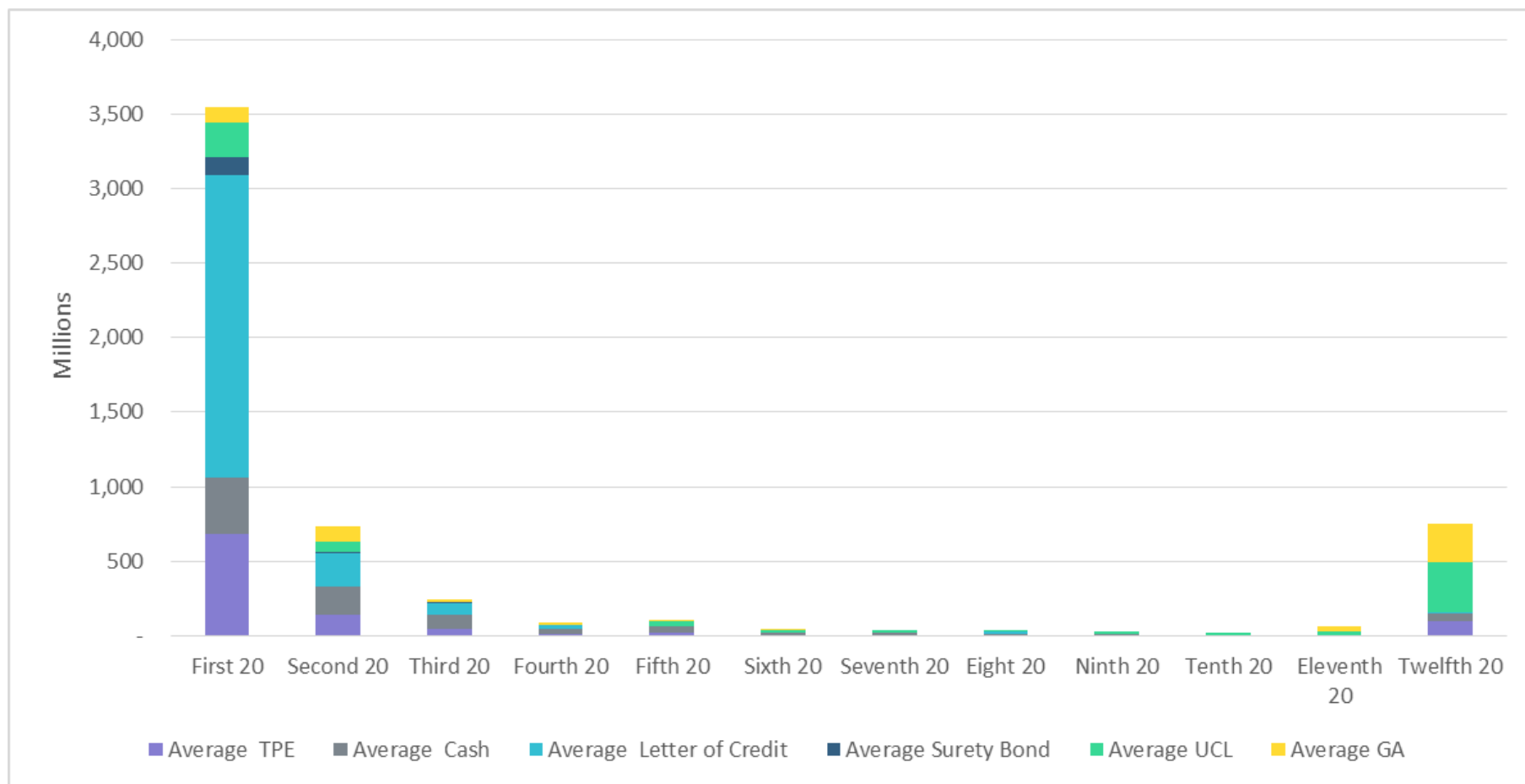
TPE and Discretionary Collateral by Market Segment - August 2019

Load and Generation entities accounted for the largest portion of discretionary collateral



Secured Collateral and Unsecured Credit Limit (UCL) / TPE - August 2019

TPE in the last bucket is covered by Guarantees and Unsecured Credit



Other CWG Topics for Discussion

- A review of Market Entry qualification considerations is in the process of being conducted by ERCOT Legal in conjunction with financial industry and RTO/ISO best practices. It is expected that the Credit Work Group will revisit this issue as a future agenda item.
- CRR portfolio liquidation considerations in the event of a Market Participant default are being reviewed by ERCOT staff based on a conceptual framework previously discussed. It is expected that the Credit Work Group will revisit this issue as a future agenda item.
- NPRR 917 – Nodal Pricing for Settlement Only Distribution Generators (SODGs) and Settlement Only Transmission Generators (SOTGs) – may have educational and additional credit components. ERCOT Credit staff will present recommendations at the next CWG meeting.
- ERCOT has proposed a System Change Request to modify the forward days included in the Real-Time and Day-Ahead Adjustment Factors to include the Current Operating Day's Forward Prices.

Other CWG Topics for Discussion (Continued)

- A discussion of potentially increasing Surety Bond limit of \$10 million per Market Participant per issuer and accompanying changes to the Surety Bond standard agreement was held at the August CWG/MCWG meeting. The outcome of this discussion was to have a Market Participant prepare a draft NPRR while ERCOT Legal was to review possible high level standard agreement terms and conditions requested by certain surety bond issuers prior to proceeding further with the process to identify potential 'show stoppers.'
- ERCOT issued a Request for Proposal on July 12th to engage an outside consultant to review ERCOT's credit practices and procedures.

Questions?