



## **Item 5: Periodic Report on Credit Work Group Activity**

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Chair, Credit Work Group

Finance & Audit Committee Meeting

ERCOT Public

December 9, 2019

# Credit Work Group Update – Reviewed NPRRs

- **NPRRs Reviewed Without Credit Impact**

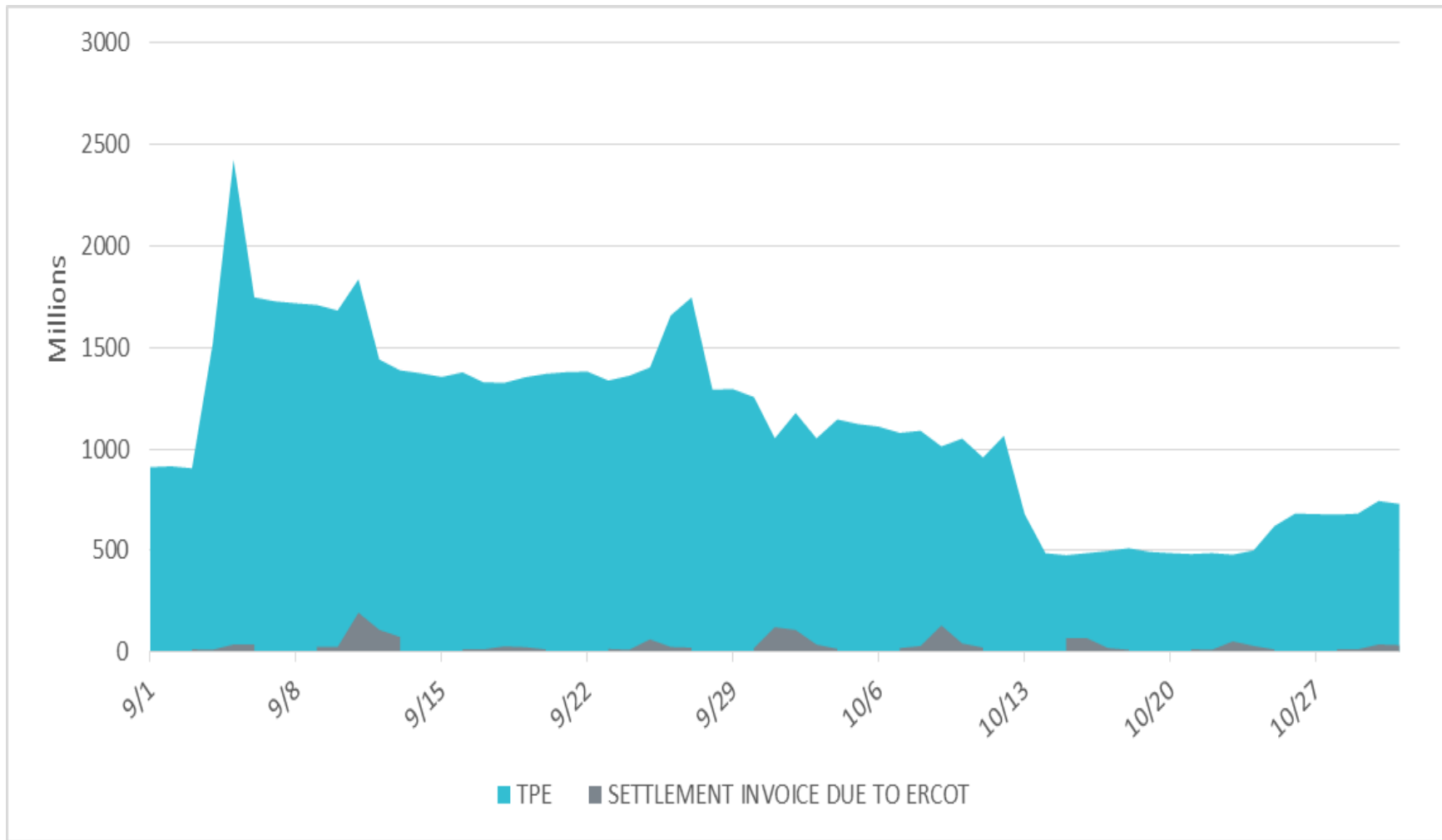
- NPRR 826 – Mitigated Offer Caps for RMR Resources
- NPRR 838 – Updated O&M Cost for RMR Resources
- NPRR 928 – Cybersecurity Incident Notification
- NPRR 963 – Creation of Generation and Controllable Load Resource Group (GCLR Group)
- NPRR 964 – Improvement of RMR Process and Removal of Synchronous Condenser Unit and Agreement
- NPRR 967 – Allow Limited Duration Resource Energy Offer Curve Updates Near Real-Time and Remove the 10 MW Limit
- NPRR 971 – Changing Energy Offer Curve Caps for Make-Whole Calculation Purposes and Replacing the Real-Time Average Incremental Energy Cost
- NPRR 972 – Enhancing Existing CRR Transaction Limit Process
- NPRR 974 – Capacity Insufficiency Operating Condition Notice (OCN) Transparency
- NPRR 977 – Create MIS Posting for RUC Cancellations
- NPRR 978 – Alignment with Amendments to PUCT Substantive Rule 25.505

# Credit Exposure Update

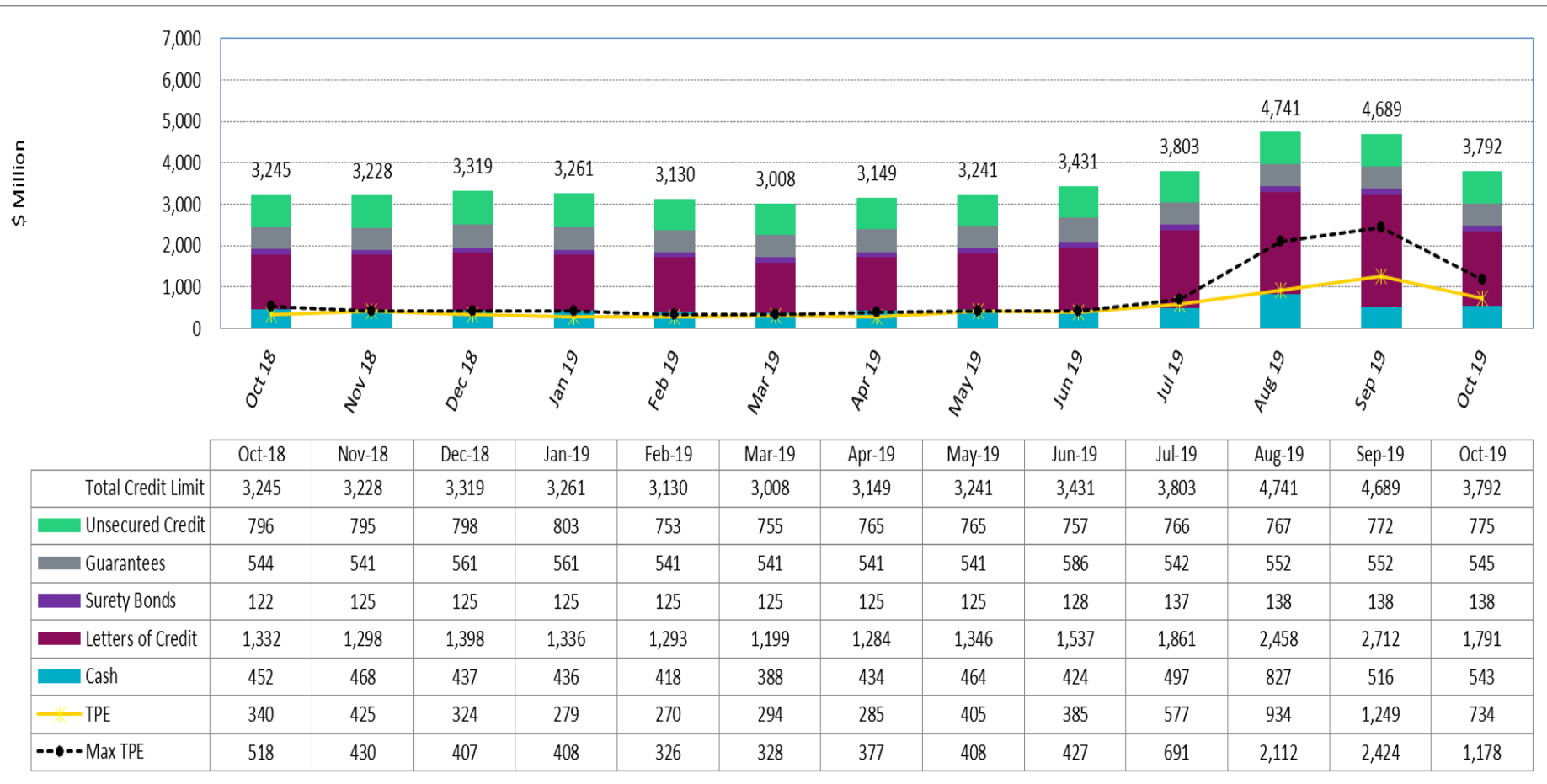
## October 2019 compared to September 2019

- Market-wide average TPE decreased from \$ 1,441.1 million to \$ 763.6 million.
- The decrease in TPE is due to high summer prices rolling off.
- Discretionary Collateral is defined as Secured Collateral in excess of TPE, CRR Locked ACL and DAM Exposure.
- Average Discretionary Collateral decreased from \$ 1,627.8 million to \$1,361.9 million.
- The decrease in Discretionary Collateral is largely due to the decreases in TPE and secured collateral.
- Number of active Counter-Parties increased from 241 to 244.
- No unusual collateral call activity.

# Settlement Invoice Charges Due to ERCOT / Total Potential Exposure September 2019 – October 2019



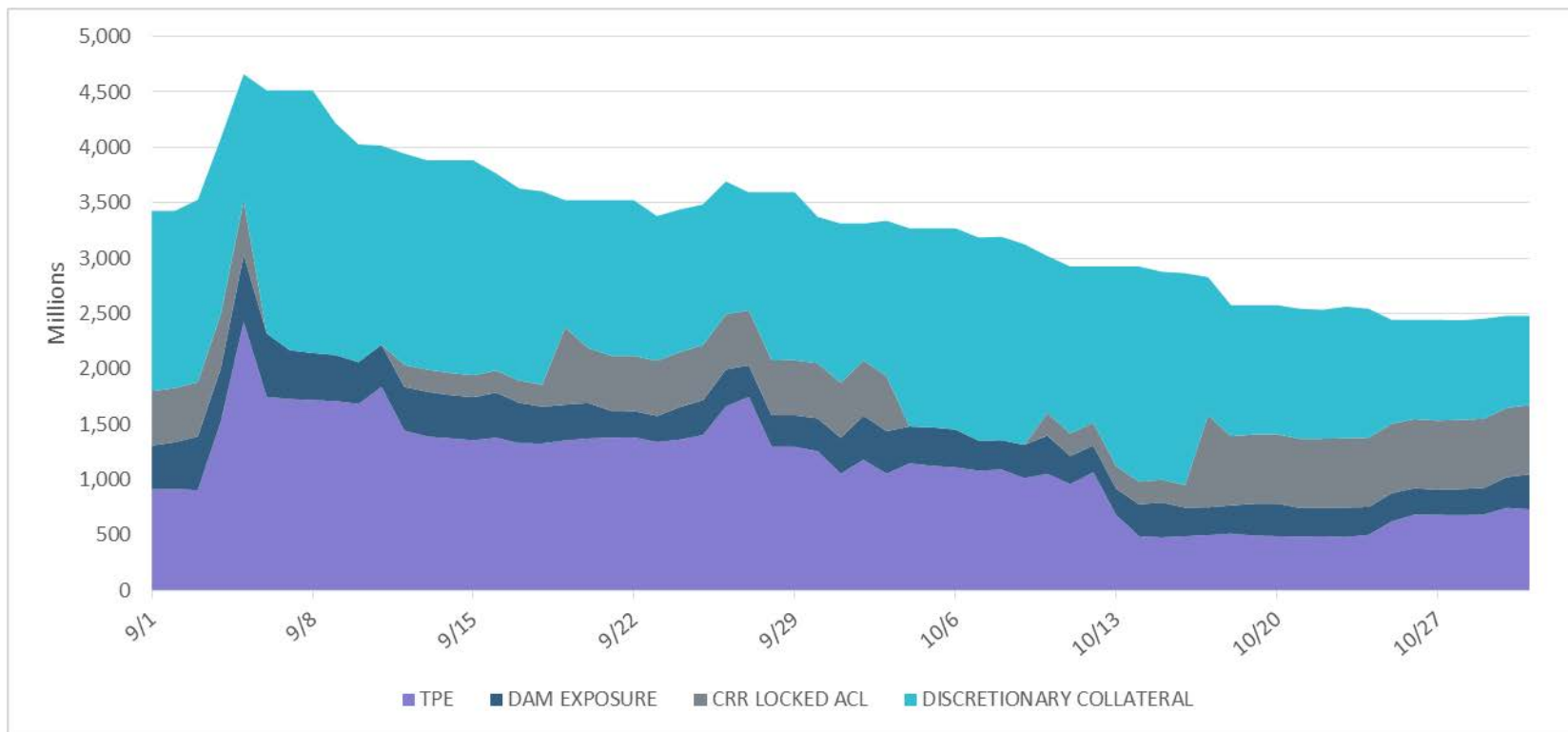
# Available Credit by Type Compared to Total Potential Exposure (TPE)



\*Numbers are as of month ended except for Max TPE

## Discretionary Collateral September 2019 - October 2019

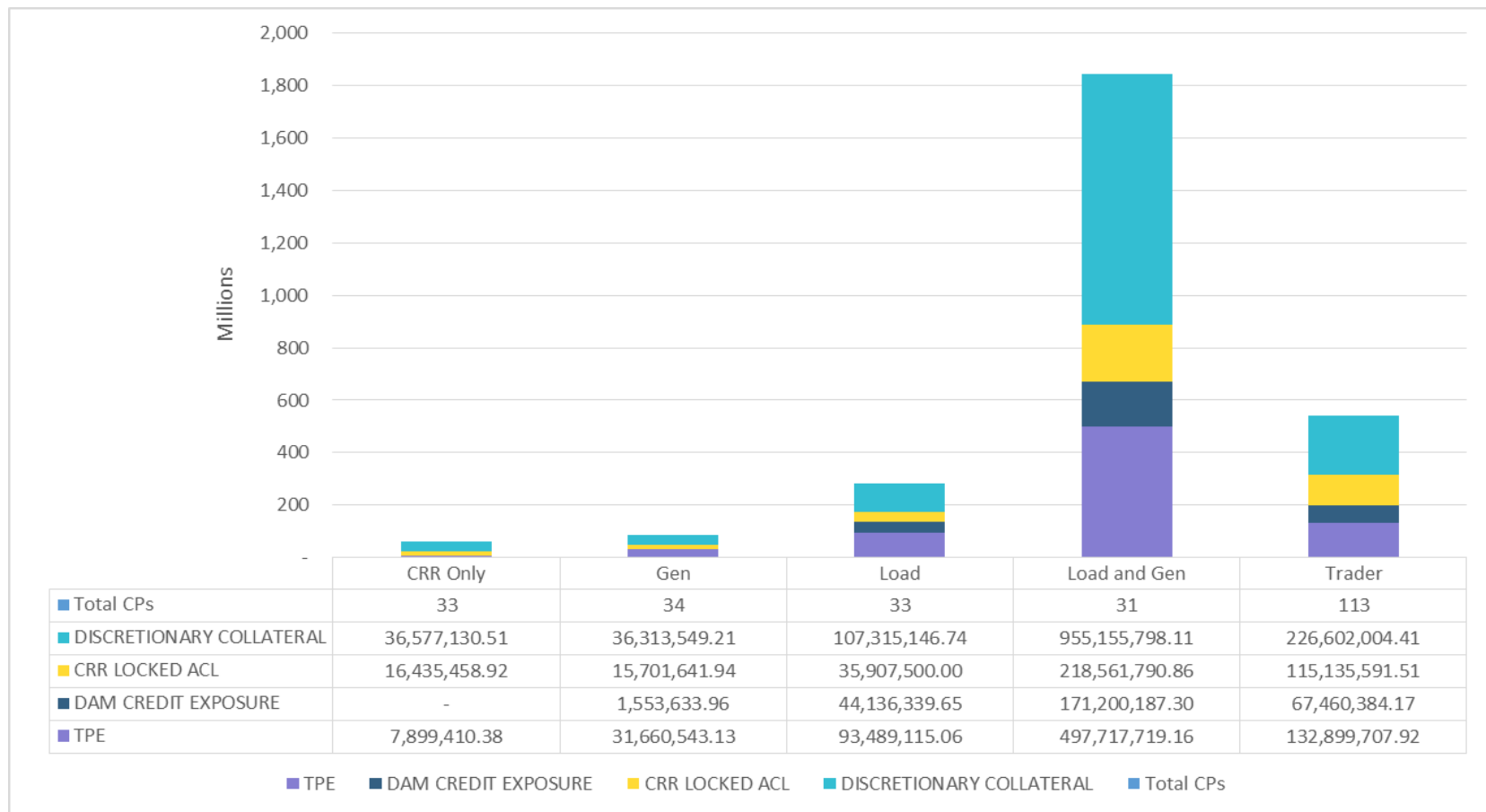
At a Counter-Party level, no unusual changes were noted



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

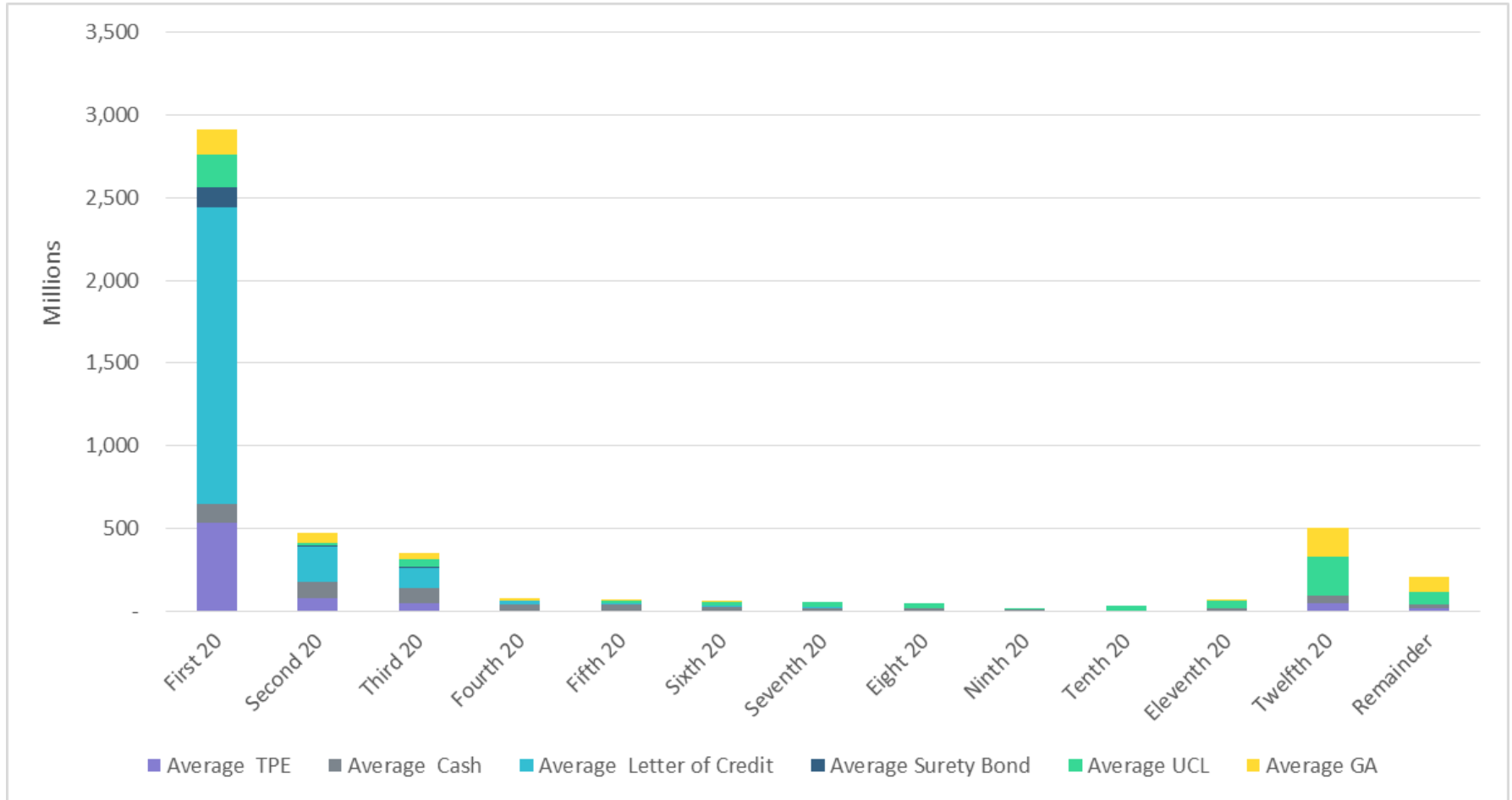
# TPE and Discretionary Collateral by Market Segment - October 2019

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



# Secured collateral and Unsecured Credit Limit (UCL) / TPE - October 2019

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





## TPE 2019

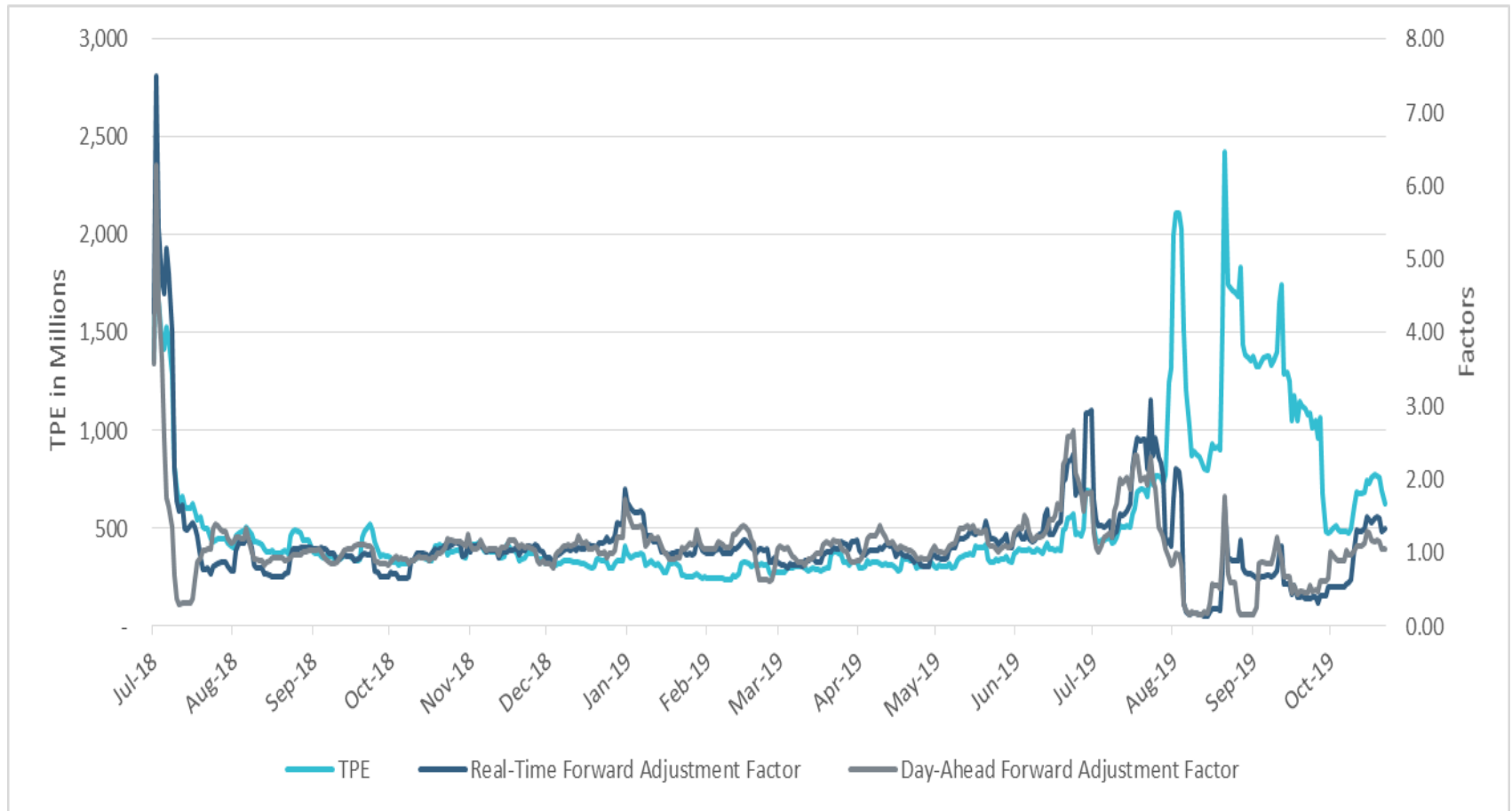
### September through early October: RFAF & DFAF falls to 0.5 - 1.0

- The component driving TPE was the MAXRTLE (which reflects summer conditions in August extending through early October):
  - TPE reduced during this period due to lower RFAF & DFAF
- ERCOT average historic prices included high-price days which were lagging average ICE prices
  - ICE prices started to stabilize and reflect fall conditions

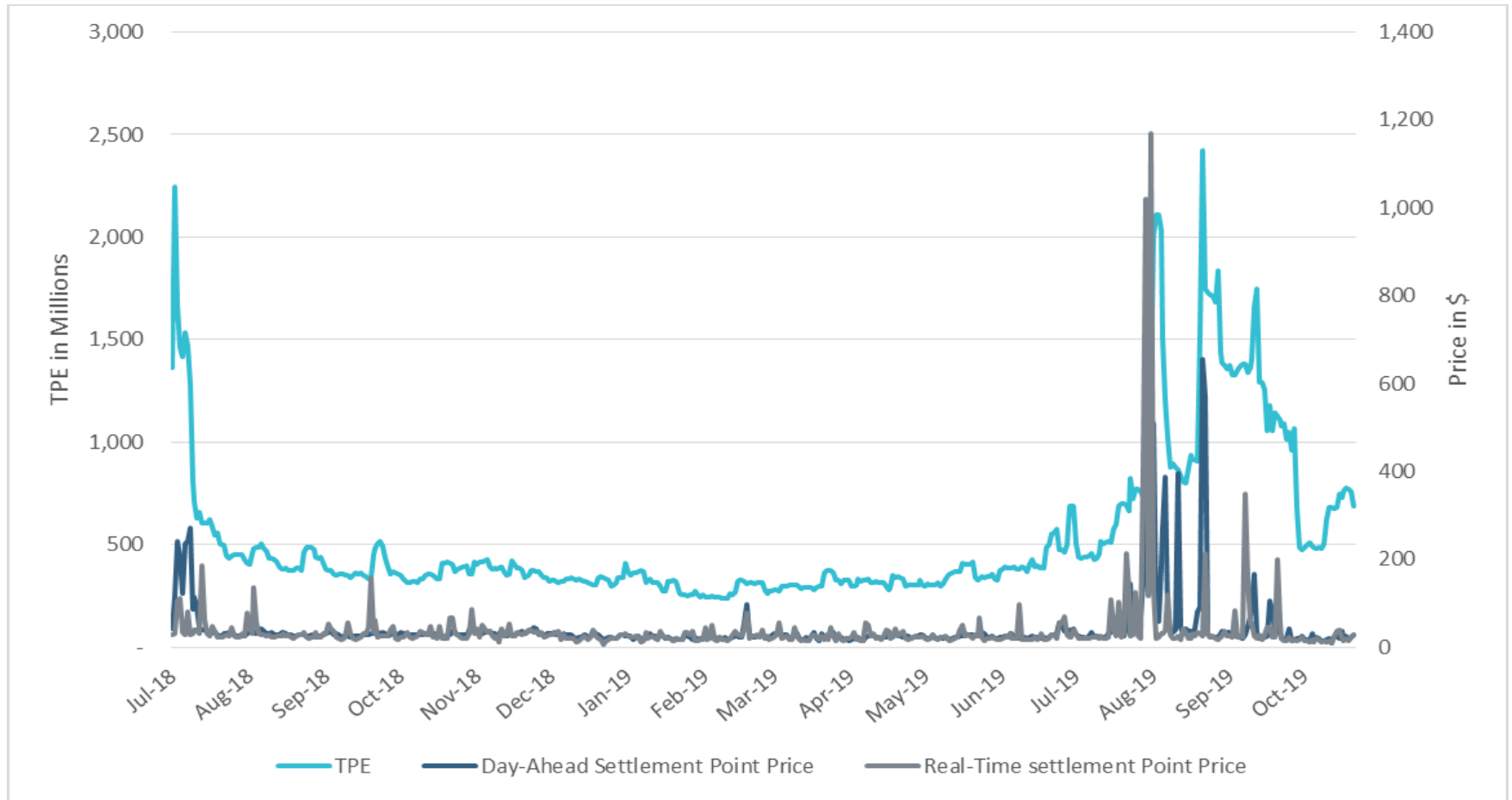
### Mid to Late October: RFAF & DFAF rises to 1.0 – 1.4

- TPE increases due to higher RFAF & DFAF as MAXRTLE decreases
- There was a convergence between ERCOT and ICE price averages as the remaining ERCOT high-price days begin to roll off

# TPE and Forward Adjustment Factors July 2018 - October 2019

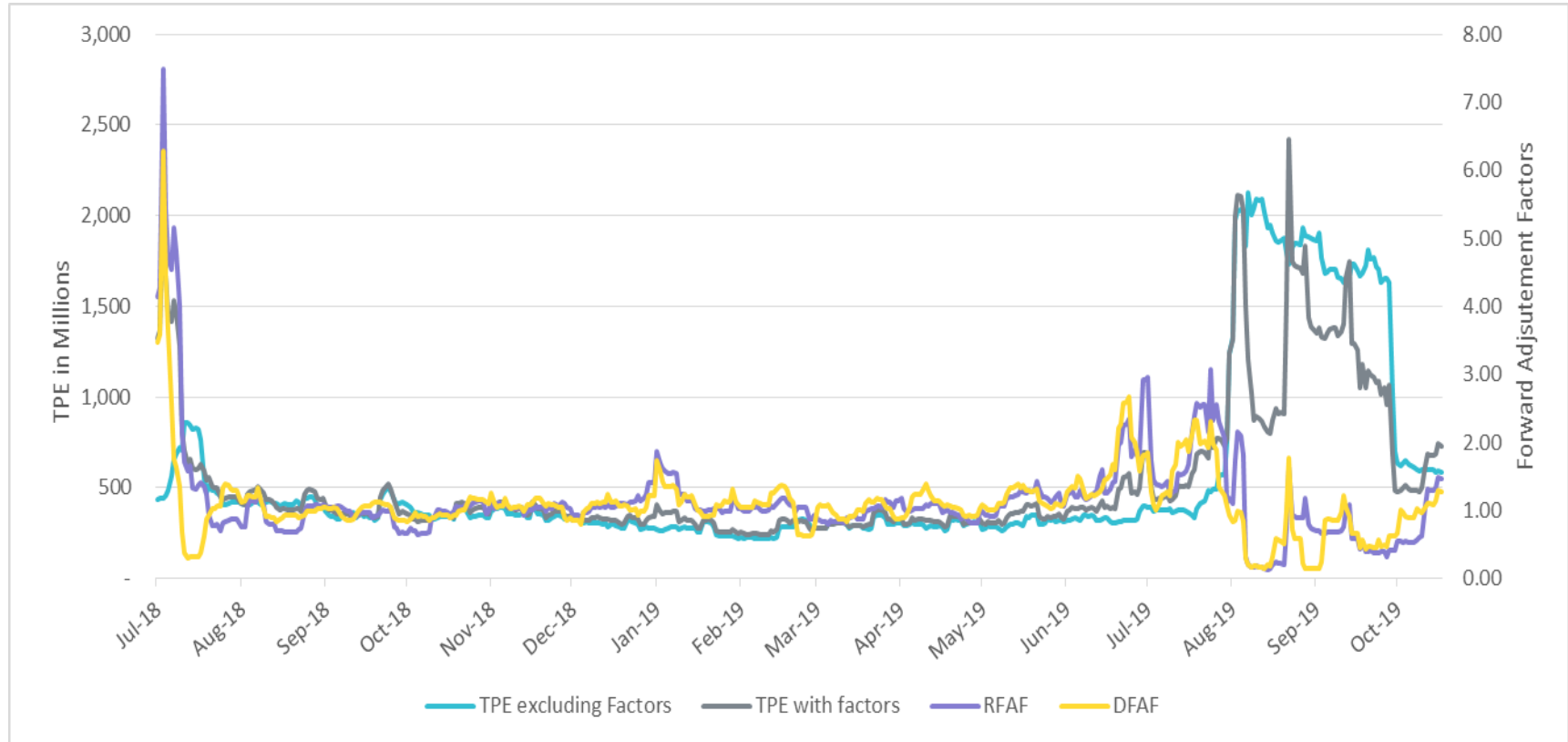


# TPE/Real-Time & Day-Ahead Daily Average Settlement Point Prices for HB\_NORTH July 2018 - October 2019



## TPE with/without Forward Adjustment Factors July 2018 - October 2019

- The average TPE in summer 2019 is less than average TPE excluding the factors
  - RFAF and DFAF below 1
- The TPE in July 2018 is higher than TPE excluding the factors
  - RFAF and DFAF above 6



# Counter-Party Credit Changes Sept – Oct 2019

Category	Counter-Party Distribution			Average TPE Distribution			Average Excess Collateral Distribution		
	Sep-19	Oct-19	Change	Sep-19	Oct-19	Change	Sep-19	Oct-19	Change
CRR Only	13.22%	13.52%	0.30%	0.55%	1.03%	0.49%	2.01%	2.16%	0.15%
Generation Only	14.46%	13.93%	-0.53%	2.96%	4.15%	1.19%	3.71%	2.80%	-0.92%
Load Only	14.05%	13.52%	-0.52%	11.63%	12.24%	0.61%	12.12%	10.52%	-1.60%
Load and Gen	12.40%	12.70%	0.31%	73.54%	65.17%	-8.36%	64.40%	62.17%	-2.23%
Trader	45.87%	46.31%	0.44%	11.33%	17.40%	6.08%	17.75%	22.35%	4.60%

Rating Group	Counter-Party Distribution			Average TPE Distribution			Average Excess Collateral		
	Sep-19	Oct-19	Change	Sep-19	Oct-19	Change	Sep-19	Oct-19	Change
AAA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AA- to AA+	3.72%	4.10%	0.38%	2.42%	2.41%	0.00%	1.55%	1.41%	-0.13%
A- to A+	7.44%	6.97%	-0.47%	22.32%	18.70%	-3.62%	21.93%	22.55%	0.61%
BBB- to BBB+	11.57%	11.48%	-0.09%	21.02%	25.71%	4.69%	26.41%	26.37%	-0.04%
<b>Investment Grade</b>	<b>22.73%</b>	<b>22.54%</b>	<b>-0.19%</b>	<b>45.76%</b>	<b>46.83%</b>	<b>1.07%</b>	<b>49.89%</b>	<b>50.33%</b>	<b>0.44%</b>
BB- to BB+	2.89%	2.87%	-0.02%	28.62%	25.46%	-3.16%	13.00%	10.32%	-2.68%
B- to B+	2.07%	2.05%	-0.02%	1.85%	2.62%	0.77%	2.23%	1.37%	-0.85%
CCC+ and below	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Not Rated	72.31%	72.54%	0.23%	23.77%	25.09%	1.32%	34.88%	37.98%	3.09%
<b>Non-investment Grade</b>	<b>77.27%</b>	<b>77.46%</b>	<b>0.19%</b>	<b>54.24%</b>	<b>53.17%</b>	<b>-1.07%</b>	<b>50.11%</b>	<b>49.67%</b>	<b>-0.44%</b>

# Counter-Party Credit Exposure – October 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+	683,669	0	0	17,748,438	0	18,432,106	2.41%
A- to A+	127,690	0	16,853,769	119,600,092	6,245,864	142,827,414	18.70%
BBB- to BBB+	28,685	9,258,329	20,665,500	119,302,985	47,114,312	196,369,810	25.71%
<b>Investment Grade</b>	<b>840,043</b>	<b>9,258,329</b>	<b>37,519,268</b>	<b>256,651,515</b>	<b>53,360,175</b>	<b>357,629,330</b>	<b>46.83%</b>
BB- to BB+	0	2,599,386	9,733,781	155,325,514	26,772,232	194,430,912	25.46%
B- to B+	0	22,935	0	19,914,777	81,501	20,019,213	2.62%
CCC+ and below	0	0	0	0	0	0	0.00%
Not Rated	7,059,367	19,779,893	46,236,066	65,825,914	52,685,799	191,587,039	25.09%
<b>Non-Investment Grade</b>	<b>7,059,367</b>	<b>22,402,214</b>	<b>55,969,847</b>	<b>241,066,204</b>	<b>79,539,533</b>	<b>406,037,165</b>	<b>53.17%</b>
<b>Total TPE</b>	<b>7,899,410</b>	<b>31,660,543</b>	<b>93,489,115</b>	<b>497,717,719</b>	<b>132,899,708</b>	<b>763,666,496</b>	<b>100.00%</b>
<b>Percent TPE</b>	<b>1.03%</b>	<b>4.15%</b>	<b>12.24%</b>	<b>65.17%</b>	<b>17.40%</b>	<b>100.00%</b>	

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+	5,708,478	0	0	31,010,679	0	36,719,157	1.41%
A- to A+	14,449,507	0	54,123,651	437,921,840	78,735,750	585,230,748	22.55%
BBB- to BBB+	2,179,380	22,906,418	78,800,060	411,833,974	168,773,874	684,493,706	26.37%
<b>Investment Grade</b>	<b>22,337,365</b>	<b>22,906,418</b>	<b>132,923,711</b>	<b>880,766,493</b>	<b>247,509,624</b>	<b>1,306,443,611</b>	<b>50.33%</b>
BB- to BB+	0	27,956,467	40,271,314	183,971,268	15,709,987	267,909,035	10.32%
B- to B+	0	821,137	0	31,956,191	2,905,674	35,683,001	1.37%
CCC+ and below	0	0	0	0	0	0	0.00%
Not Rated	33,675,224	20,884,804	99,918,962	517,222,905	314,065,645	985,767,540	37.98%
<b>Non-Investment Grade</b>	<b>33,675,224</b>	<b>49,662,407</b>	<b>140,190,275</b>	<b>733,150,364</b>	<b>332,681,305</b>	<b>1,289,359,577</b>	<b>49.67%</b>
<b>Total Excess Collateral</b>	<b>56,012,589</b>	<b>72,568,825</b>	<b>273,113,986</b>	<b>1,613,916,857</b>	<b>580,190,929</b>	<b>2,595,803,188</b>	<b>100.00%</b>
<b>Percent Excess Collateral</b>	<b>2.16%</b>	<b>2.80%</b>	<b>10.52%</b>	<b>62.17%</b>	<b>22.35%</b>	<b>100.00%</b>	



# Counter-Party Credit Exposure – October 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+	0	0	0	0	0	0	0.0%	0.00%
A- to A+	509	0	0	0	0	509	0.0%	0.00%
BBB- to BBB+	0	480	0	0	0	480	0.0%	0.00%
<b>Investment Grade</b>	<b>509</b>	<b>480</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>988</b>	<b>0.0%</b>	<b>0.00%</b>
BB- to BB+	0	0	0	0	40,500	40,500	0.8%	0.01%
B- to B+	0	0	0	0	0	0	0.0%	0.00%
CCC+ and below	0	0	0	0	0	0	0.0%	0.00%
Not Rated	1,001,366	439,544	1,588,856	201,318	1,792,764	5,023,849	99.2%	0.66%
<b>Non-Investment Grade</b>	<b>1,001,366</b>	<b>439,544</b>	<b>1,588,856</b>	<b>201,318</b>	<b>1,833,264</b>	<b>5,064,349</b>	<b>99.98%</b>	<b>0.66%</b>
<b>Quintile Average TPE</b>	<b>1,001,875</b>	<b>440,024</b>	<b>1,588,856</b>	<b>201,318</b>	<b>1,833,264</b>	<b>5,065,337</b>	<b>100.0%</b>	<b>0.66%</b>
<b>Percent Quintile Average TPE</b>	<b>19.8%</b>	<b>8.7%</b>	<b>31.4%</b>	<b>4.0%</b>	<b>36.2%</b>	<b>100.0%</b>		
<b>Percent Total Average TPE</b>	<b>0.13%</b>	<b>0.06%</b>	<b>0.21%</b>	<b>0.03%</b>	<b>0.24%</b>	<b>0.66%</b>		

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+	132,359	0	0	0	0	132,359	2.75%	0.01%
A- to A+	111,042	0	0	0	0	111,042	2.31%	0.00%
BBB- to BBB+	150,000	103,018	0	0	0	253,018	5.26%	0.01%
<b>Investment Grade</b>	<b>393,401</b>	<b>103,018</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>496,419</b>	<b>10.32%</b>	<b>0.02%</b>
BB- to BB+	0	0	0	0	128,813	128,813	2.68%	0.00%
B- to B+	0	0	0	0	0	0	0.00%	0.00%
CCC+ and below	0	0	0	0	0	0	0.00%	0.00%
Not Rated	805,376	621,084	552,351	203,702	2,004,581	4,187,093	87.01%	0.16%
<b>Non-Investment Grade</b>	<b>805,376</b>	<b>621,084</b>	<b>552,351</b>	<b>203,702</b>	<b>2,133,394</b>	<b>4,315,907</b>	<b>89.68%</b>	<b>0.17%</b>
<b>Total Quintile Excess Collateral</b>	<b>1,198,777</b>	<b>724,102</b>	<b>552,351</b>	<b>203,702</b>	<b>2,133,394</b>	<b>4,812,326</b>	<b>100.00%</b>	<b>0.19%</b>
<b>Percent Quintile Excess Collateral</b>	<b>24.91%</b>	<b>15.05%</b>	<b>11.48%</b>	<b>4.23%</b>	<b>44.33%</b>	<b>100.00%</b>		
<b>Percent Total Excess Collateral</b>	<b>0.05%</b>	<b>0.03%</b>	<b>0.02%</b>	<b>0.01%</b>	<b>0.08%</b>	<b>0.19%</b>		



# ERCOT Late Payments (Section 16.11.6.2)

Late Payments (rolling 12 months)	Action
1 <sup>st</sup> Late Payment	ERCOT shall review the circumstances and reason for the Late Payment, and shall, at its sole discretion, determine whether it should take Level I Enforcement action, as described in Section 16.11.6.2.5, Level I Enforcement, against the Market Participant.
2 <sup>nd</sup> Late Payment	ERCOT shall review the circumstances and reason for the Late Payment, and shall take action as follows: (a) <u>Level I Enforcement</u> - If ERCOT did not take Level I Enforcement action in the case of the first Late Payment, ERCOT shall take Level I Enforcement action, as described in Section 16.11.6.2.5, Level I Enforcement. (b) <u>Level II Enforcement</u> - If ERCOT did take Level I Enforcement action in the case of the first Late Payment, ERCOT shall take Level II Enforcement action, as described in Section 16.11.6.2.6, Level II Enforcement.
3 <sup>rd</sup> Late Payment	ERCOT shall review the circumstances and reason for the Late Payment, and shall take action as follows: (a) <u>Level II Enforcement</u> - If ERCOT did not take Level II Enforcement action in the case of the second Late Payment, ERCOT shall take Level II Enforcement action, as described in Section 16.11.6.2.6, Level II Enforcement. (b) <u>Level III Enforcement</u> - If ERCOT did take Level II Enforcement action in the case of the second Late Payment, ERCOT shall take Level III Enforcement action, as described in Section 16.11.6.2.7, Level III Enforcement.
4 <sup>th</sup> Late Payment	ERCOT shall take action under Section 16.11.6.1.6, Revocation of a Market Participant’s Rights and Termination of Agreements.



# Current ERCOT Late Payment Enforcement

Level of Enforcement	Action
Level 1	<p>(1) Under Level I Enforcement, ERCOT shall notify the Market Participant to comply with one of the following requirements:</p> <p>(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 less the Unsecured Credit Limit; or any other liability to ERCOT that the Market Participant has or is expected to have for activity in the ERCOT Region, whichever applies.</p> <p>(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 less the Unsecured Credit Limit or any other liability to ERCOT that the Market Participant has or is expected to have for activity in the ERCOT Region, whichever applies.</p> <p>(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.</p>
Level 2	<p>(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 110% of the Market Participant's TPE less the Unsecured Credit Limit or for any other liability to ERCOT that the Market Participant has or is expected to have for activity in the ERCOT Region.</p> <p>(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.</p>
Level 3	<p>(1) Under Level III Enforcement, ERCOT shall:</p> <p>(a) Advise the Authorized Representative and/or Credit Contact that a fourth Late Payment in the rolling 12-month period shall result in ERCOT taking action under Section 16.11.6.1.6, Revocation of a Market Participant's Rights and Termination of Agreements; or</p> <p>(b) Take action under Section 16.11.6.1.6.</p>

## Other CWG Topics for Discussion

- An initial discussion of the Nodal credit Protocol language related to implementing Real Time Co-optimization was conducted – including impacts related to both physical and virtual ancillary services transactions.
- A discussion was held related to considering the offsetting risk characteristics of CRR Options and Obligations portfolios (on the same underlying pathways) and possible methods of incorporating time diversification into CRR credit requirements. The idea is that options and obligations are valued independently for credit purposes even though there may be offsetting financial settlements which lowers overall risk. As well, a long series of positions may present lower levels of risk when correlations between monthly price movements are taken into consideration. Additional discussions will take place on this topic.
- A proposal was presented to allow Market Participants with variable activity to voluntarily ‘suspend’ their participation in the ERCOT marketplace after the payment of any outstanding invoices and not be subject to ERCOT Credit Protocols until they provide notice to reenter the market. This would allow traders the option to avoid collateral calls related to increased forward price adders in certain high volatility periods. Additional discussions will take place on this topic as there are numerous operational and financial implications.

## Other CWG Topics for Discussion (Continued)

- NPRR 917 (Approved 08/13/19) - Nodal Pricing for Settlement Only Distribution Generators (SODGs) and Settlement Only Transmission Generators (SOTGs) – has been reviewed by the CWG and while not having an additional credit component, the NPRR may have educational component informing QSE’s representing such entities that they may have periodic payment obligations to ERCOT as opposed to only receiving payments.
- NPRR 976 - Provisions for Resource Entities to Act as a Virtual QSE or Emergency QSE – ERCOT sponsored NPRR which will allow a Virtual or Emergency QSE to enter into transactions to sell Energy, Capacity or Ancillary Services or to submit Day-Ahead Market (DAM) Energy Bids on behalf of a Resource Entity as opposed to only allow the purchase of those commodities.
- NPRR 985 - Modify Forward Adjustment Factors to Include Pricing for the Current Operating Day - ERCOT sponsored NPRR to modify the forward days included in the Real Time and Day Ahead Adjustment Factors to include the Current Operating Day’s Forward Prices. Impact Analysis includes a cost of less than \$10k effective at the time of the CMM Tech Refresh Phase 2 project.

## Other CWG Topics for Discussion (Continued)

- A review of Market Entry Qualification considerations remains in the process of being reviewed by ERCOT Legal in conjunction with financial industry and RTO/ISO best practices. It is expected that the Credit Working 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.

A draft NPRR has been proposed by ERCOT staff which includes three categories of CRR portfolio positions to be considered:

1. CRRs settling during the current month OR the prompt month and the default occurs late in the current month (auction bid window is already closed/ there is not enough time to hold a one-time special auction)
2. Small positively valued portfolios
3. Negatively valued portfolios or large positively valued portfolios

# 2019 Credit Working Group Goals (for review)

- Review the ongoing impact on market participant credit exposure and collateral requirements resulting from the incorporation of a forward price curve-based methodology
- Clarify the market's risk tolerance/appetite level and provide regular updates on credit exposure to the ERCOT Board
- Evaluate and quantify potential market risk under current credit rules and examine a framework for reviewing rules in flight
- Effectively communicate credit risk to the market
- Examine current protocol language to determine how effective current calculations capture actual credit risk

# Questions?