



Item 7: Periodic Report on Credit Work Group Activity

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Chair, Credit Work Group

Finance & Audit Committee Meeting

ERCOT Public

February 11, 2019

Credit Work Group Update – Reviewed NPRRs

- **NPRRs Reviewed Without Credit Impact**

- NPRR 863 – Creation of Primary Frequency Response Service Product and Revisions to Responsive Reserve
- NPRR 886 – Agreements Between ERCOT and Other ISOs, RCs, and/or RTOs
- NPRR 905 – CRR Balancing Account Resettlement
- NPRR 906 – Clarifying the Decision Making Entity Process
- NPRR 909 – Address Unavailability Gap for ERS and Other Minor Clarifications
- NPRR 910 – Clarify Treatment of RUC Resource that has a Day-Ahead Market Three-Party Supply Award
- NPRR 911 – Improved Calculation of Real-Time LMPs at Logical Resource Nodes for On-Line Combined Cycle Generation Resources
- NPRR 914 – Addition of Controllable Load Resources to 60-Day Reports
- NPRR 915 – Define Limited Duration Resource and Clarify Telemetered Resource Status Requirements
- NPRR 916 – Mitigated Offer Floor Revisions

Credit Work Group Update – Reviewed NPRRs

- **NPRRs Reviewed With Positive Credit Impacts**
 - **NPRR 850 – Market Suspension and Restart**
 - This NPRR lays out principals for ERCOT and Market Participants to follow in the event of a Market Suspension and Market Restart, and specifies the means of Settlement during a Market Suspension and Market Restart.
 - Settlements Invoices related to a Market Suspension are to be treated as Miscellaneous Invoices within the Protocol and will be manually processed.
 - The Credit Work Group unanimously voted to endorse NPRR 850 as having positive credit implications by reducing uncertainty in credit and Settlements in the event of a Market Suspension.
 - **NPRR 907 – Revise Definition of M1a to Reflect Actual Calendar Days**
 - This NPRR replaces the existing fixed value of M1a with a value that can vary based on non-Bank Business Days and ERCOT holidays following the specific Operating Day.
 - The Credit Work Group unanimously voted to endorse NPRR 907 as having positive credit implications by more accurately computing credit exposure with respect to actual ERCOT Business Days.

Credit Exposure Update

December 2018 compared to November 2018

- Market-wide average TPE decreased from \$ 390.9 million to \$338.6 million.
 - TPE decreased by \$18.5 million for “Load and Gen” category.
 - TPE decreased by \$ 33.4 million for “Trader” category.
- Average Excess collateral increased from \$ 2,004.3 million to \$2,123.2 million.
 - increased by \$85.0 million for “Load and Gen” category.
 - increased by \$28.2 million for “Load Only” category.
 - increased by \$4.8 million for “Trader” category.
- Number of active Counter-Parties remained flat.

Credit Exposure Update

Inputs and Assumptions:

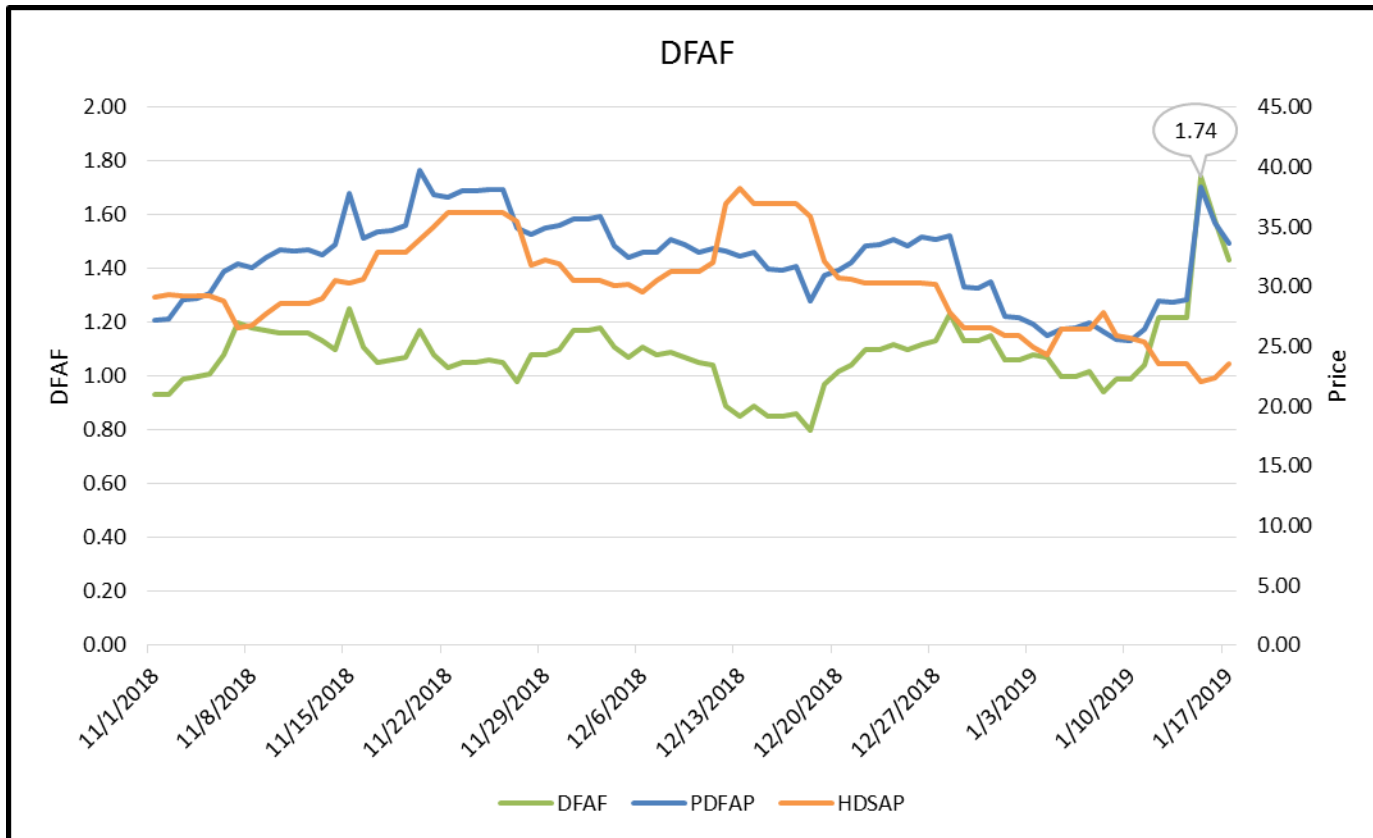
- Only Active Counter-Parties are included
- Counter-Parties are classified by rating and market activity
- TPE and collateral balances used are averages for November and December of 2018
- Counter-Parties that are subsidiaries of, or guaranteed by, rated entities are given the parent/guarantor's rating, adjusted down one notch

ERCOT Forward Pricing Collateral Parameters

Parameter	Parameter Value
Electricity-Futures Based Factors (RFAF & DFAF) Parameters	
Number of Forward Weeks	3 weeks
Real-Time Weight Factors for Forward Week (RWF) <ul style="list-style-type: none"> • Week 1 • Week 2 • Week 3 	1/3 1/3 1/3
Day-Ahead Weight Factors for Forward Week (DWF) <ul style="list-style-type: none"> • Week 1 • Week 2 • Week 3 	1/3 1/3 1/3
Reference Hub (rHub)	ERCOT North Hub
M1 (Multiplier for RTLE and DALE) Parameters	
<ul style="list-style-type: none"> • M1a (no. of days for termination upon default) • M1b (minimum no. of days to transition; based on no. of ESI IDs) <ul style="list-style-type: none"> ➤ ESI ID daily transition rate (to determine no. of days to transition) 	12 8 100,000
RTLE Look-Back <ul style="list-style-type: none"> • No Load or Gen (NPRR 620; for implementation) • All Others 	20 40

Credit Exposure Update

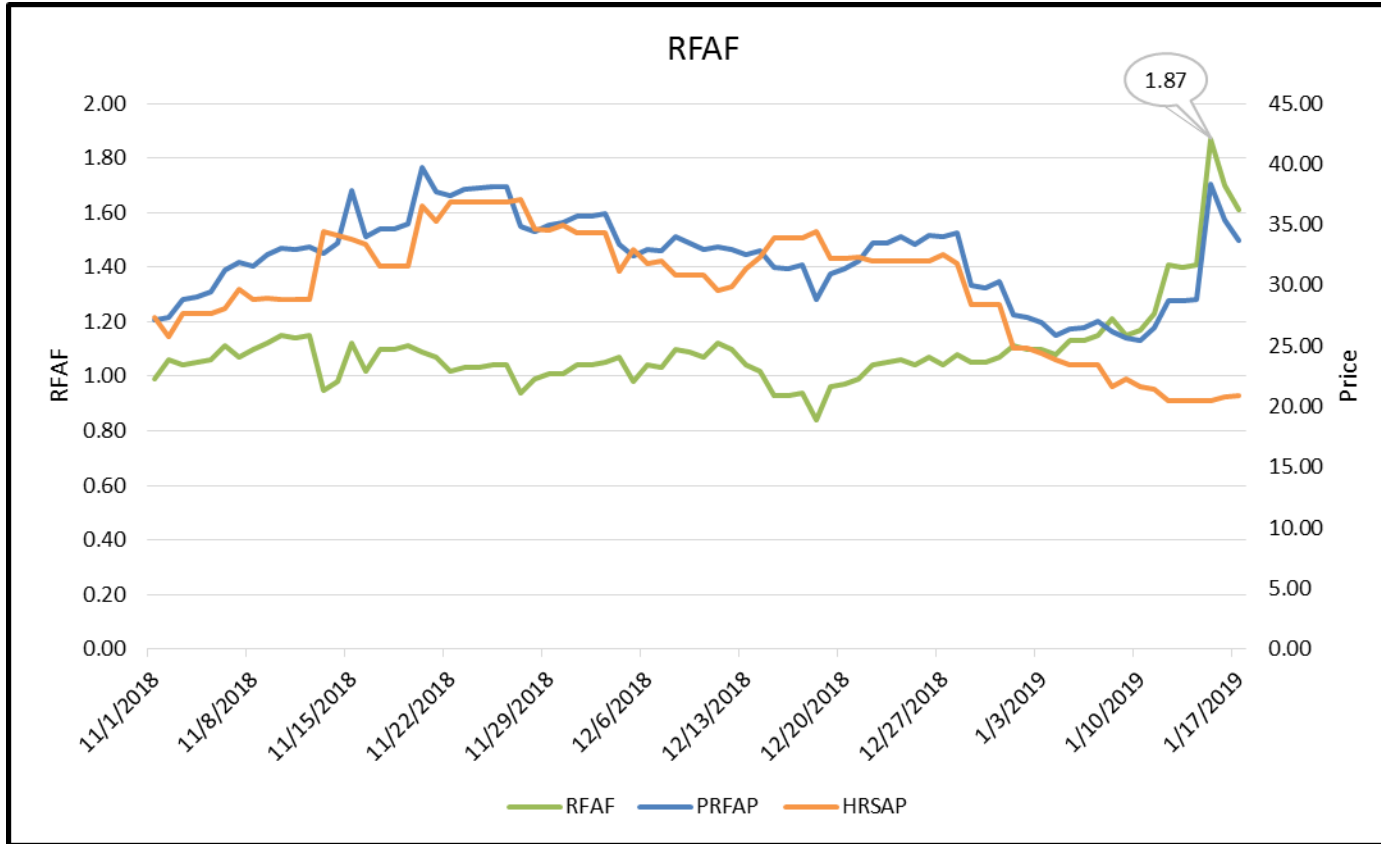
Day-Ahead Forward Adjustment Factor (DFAF)



- DFAF is calculated using 21 days of ICE future prices and 7 days of ERCOT Day Ahead Settled Prices for HB_NORTH settlement point

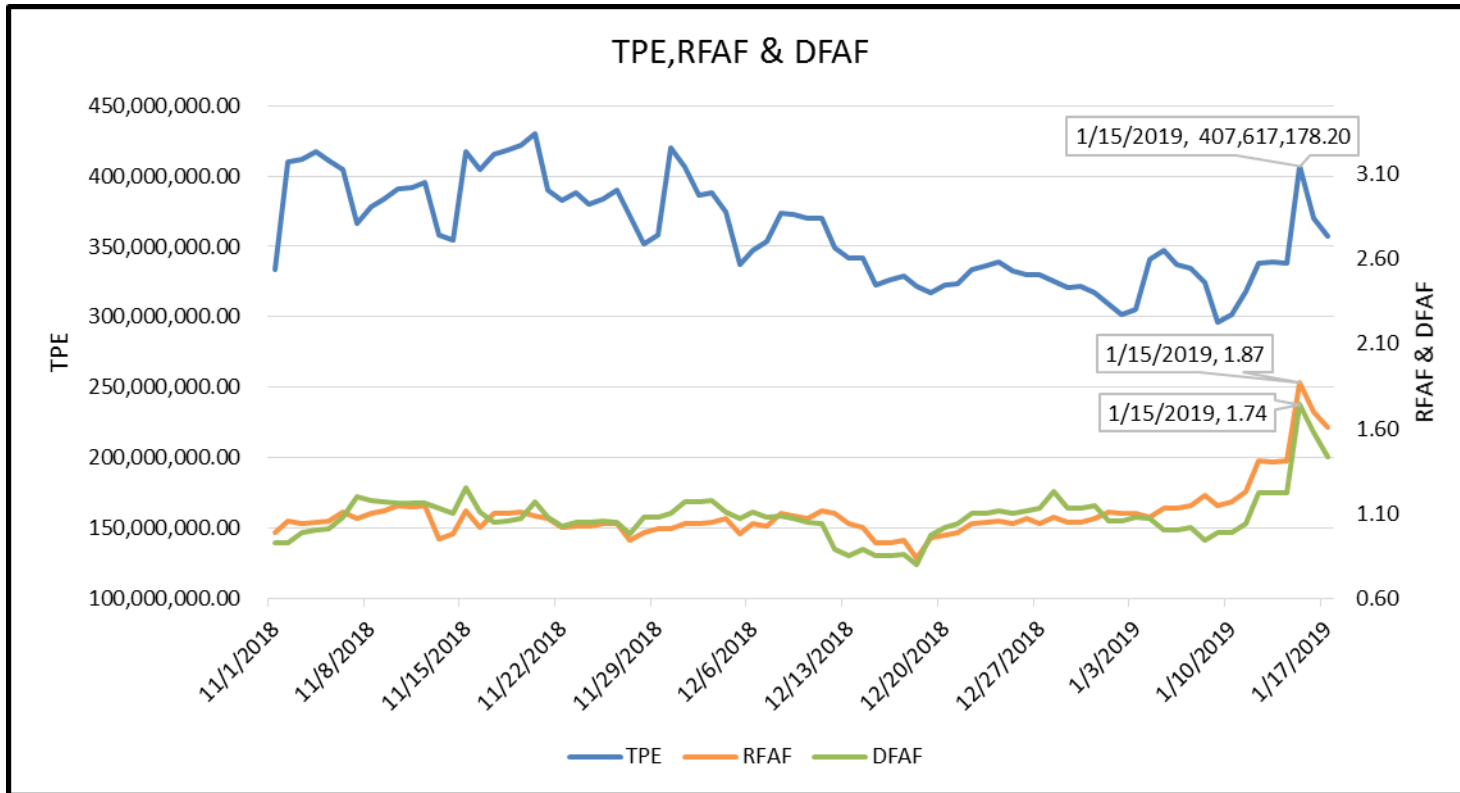
Credit Exposure Update

Real-Time Forward Adjustment Factor (RFAF)

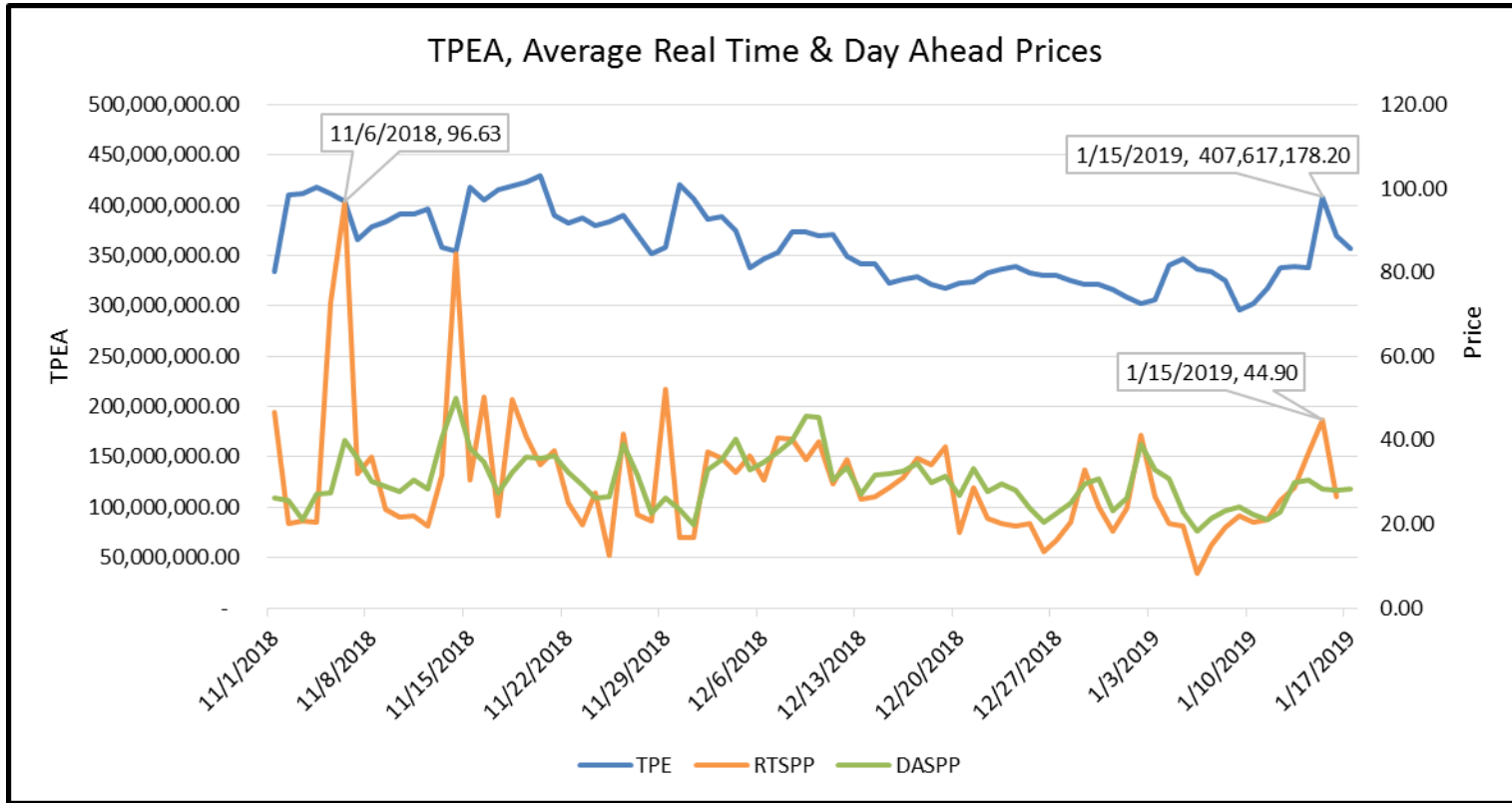


- RFAF is calculated using 21 days of ICE future prices and 14 days of ERCOT Real Time Settled Prices for HB_NORTH settlement point

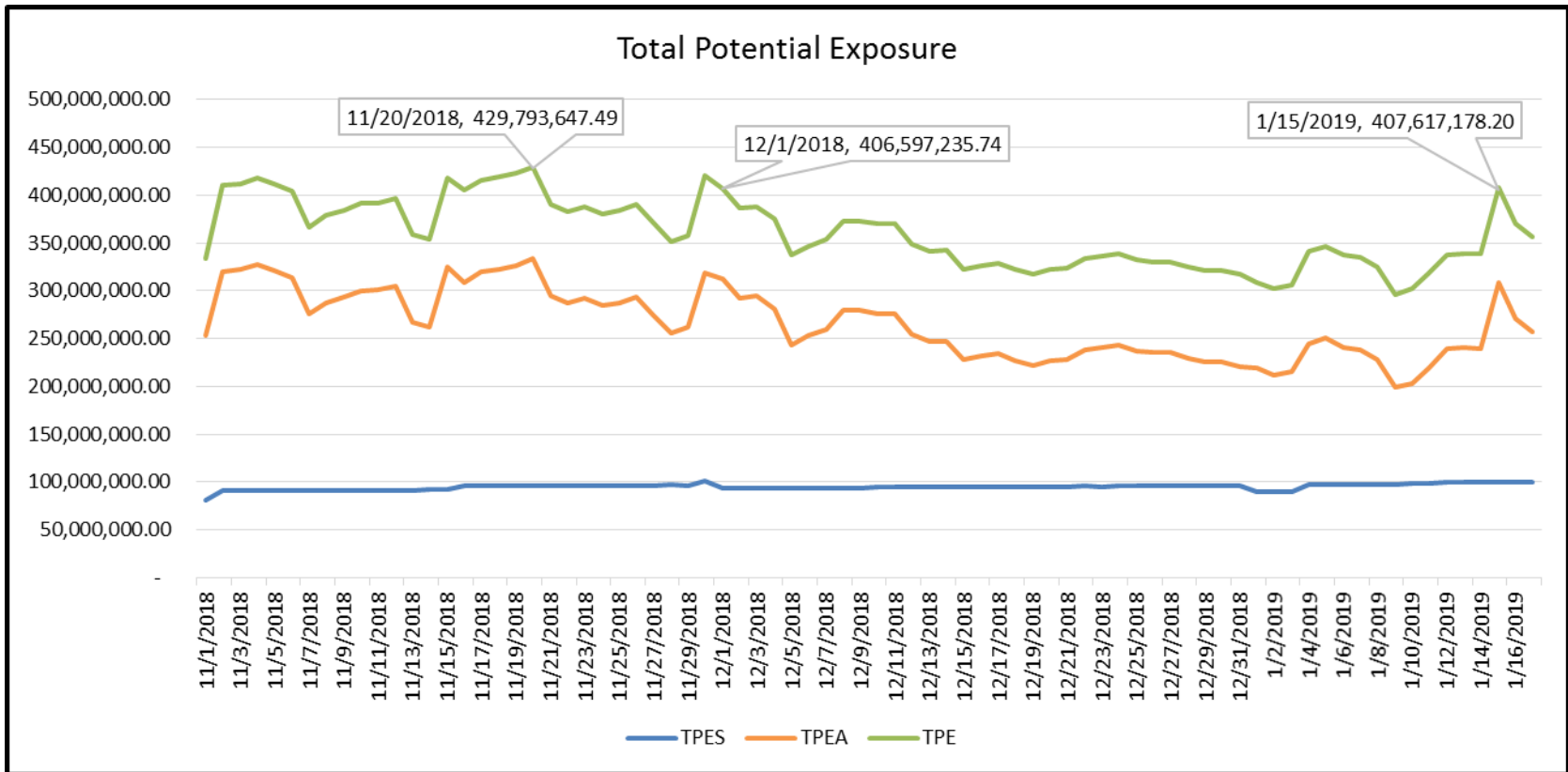
Credit Exposure Update



Credit Exposure Update



Credit Exposure Update



Counter-Party Credit Changes Nov. – Dec. 2018

Summary of distribution by Category

Category	CP Distribution			Average TPE Distribution			Average Excess Collateral Distribution		
	Nov-18	Dec-18	Change	Nov-18	Dec-18	Change	Nov-18	Dec-18	Change
CRR Only	9.61%	9.61%	0.00%	0.30%	0.42%	0.12%	2.18%	2.09%	-0.10%
Gen Only	14.85%	14.85%	0.00%	5.82%	7.39%	1.57%	4.53%	4.29%	-0.25%
Load Only	15.28%	14.85%	-0.44%	10.96%	11.78%	0.82%	8.61%	9.45%	0.85%
Load and Gen	14.4%	14.4%	0.00%	47.21%	49.05%	1.84%	58.40%	59.14%	0.74%
Trader	45.9%	46.3%	0.44%	35.71%	31.35%	-4.35%	26.28%	25.03%	-1.24%

Summary of distribution by Rating Group

Rating Group	CP Distribution			Average TPE Distribution			Average Excess Collateral		
	Nov-18	Dec-18	Change	Nov-18	Dec-18	Change	Nov-18	Dec-18	Change
0									
AAA	0.0%	0.0%	0.00%	0.0%	0.0%	0.00%	0.0%	0.0%	0.00%
AA- to AA+	4.4%	4.4%	0.00%	3.5%	2.2%	-1.28%	1.6%	1.7%	0.15%
A- to A+	7.9%	7.4%	-0.44%	13.0%	10.5%	-2.55%	20.9%	21.4%	0.45%
BBB- to BBB+	10.5%	10.9%	0.44%	22.8%	26.8%	4.00%	25.3%	27.6%	2.26%
Investment Grade	22.7%	22.7%	0.00%	39.3%	39.5%	0.16%	47.8%	50.7%	2.86%
BB- to BB+	1.7%	1.7%	0.00%	5.3%	5.2%	-0.13%	5.6%	5.7%	0.06%
B- to B+	4.4%	4.4%	0.00%	15.7%	20.9%	5.20%	9.7%	9.0%	-0.75%
CCC+ and below	0.0%	0.0%	0.00%	0.0%	0.0%	0.00%	0.0%	0.0%	0.00%
Not Rated	71.2%	71.2%	0.00%	39.6%	34.4%	-5.23%	36.8%	34.7%	-2.18%
Non-investment Grade	77.3%	77.3%	0.00%	60.7%	60.5%	-0.16%	52.2%	49.3%	-2.86%

Counter-Party Credit Exposure – December 2018

Distribution of TPE by Rating and Category

Rating Group	CRR Only	Gen Only	Load Only	Load and Gen	Trader	Total TPE	Percent TPE
AAA	0	0	0	0	0	0	0.00%
AA- to AA+	446,041	0	0	7,121,689	0	7,567,730	2.23%
A- to A+	133,124	1,278,168	9,072,980	24,273,929	770,711	35,528,911	10.49%
BBB- to BBB+	7,112	3,958,316	14,834,224	48,790,871	23,031,091	90,621,614	26.76%
Investment Grade	586,276	5,236,484	23,907,204	80,186,488	23,801,802	133,718,255	39.49%
BB- to BB+	0	0	8,940,861	1,203,486	7,389,370	17,533,717	5.18%
B- to B+	0	14,304	0	41,162,180	29,695,466	70,871,950	20.93%
CCC+ and below	0	0	0	0	0	0	0.00%
Not Rated	846,979	19,777,163	7,059,868	43,552,559	45,290,039	116,526,607	34.41%
Non-Investment Grade	846,979	19,791,467	16,000,729	85,918,225	82,374,875	204,932,274	60.51%
Total TPE	1,433,255	25,027,951	39,907,933	166,104,713	106,176,677	338,650,529	100.00%
Percent TPE	0.42%	7.39%	11.78%	49.05%	31.35%	100.00%	

Distribution of Excess Collateral by Rating and Category

Rating Group	CRR Only	Gen Only	Load Only	Load and Gen	Trader	Excess Collateral	Percent Excess Collateral
AAA	0	0	0	0	0	0	0.00%
AA- to AA+	5,035,121	0	0	31,638,766	0	36,673,887	1.73%
A- to A+	14,079,372	33,721,832	50,657,455	290,785,059	64,462,004	453,705,723	21.37%
BBB- to BBB+	3,142,888	29,033,968	92,696,222	331,781,614	128,817,184	585,471,877	27.58%
Investment Grade	22,257,381	62,755,800	143,353,677	654,205,439	193,279,189	1,075,851,486	50.67%
BB- to BB+	0	0	41,064,184	28,048,018	51,150,540	120,262,742	5.66%
B- to B+	0	170,740	0	166,383,477	24,522,976	191,077,193	9.00%
CCC+ and below	0	0	0	0	0	0	0.00%
Not Rated	22,071,741	28,053,564	16,305,574	407,018,089	262,552,760	736,001,727	34.66%
Non-Investment Grade	22,071,741	28,224,304	57,369,758	601,449,584	338,226,276	1,047,341,662	49.33%
Total Excess Collateral	44,329,122	90,980,104	200,723,435	1,255,655,023	531,505,464	2,123,193,148	100.00%
Percent Excess Collateral	2.09%	4.29%	9.45%	59.14%	25.03%	100.00%	

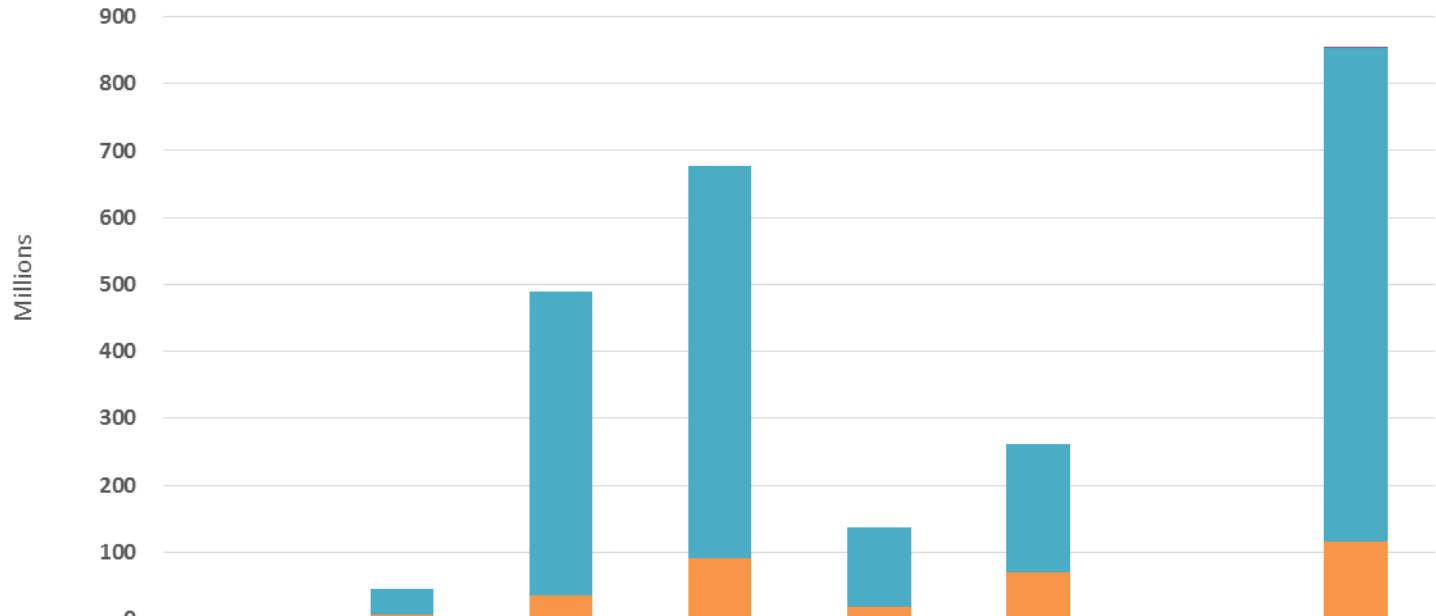
Counter-Party Credit Exposure – December 2018 Average TPE and Excess Collateral for the Bottom Quintile of Market Participants

Quintile Distribution of Excess Collateral by Rating and Category								
Rating Group	CRR Only	Gen Only	Load Only	Load and Gen	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+	0	0	0	0	0	0	0.00%	0.00%
A- to A+	204,590	0	0	0	0	204,590	5.64%	0.01%
BBB- to BBB+	142,888	3,222	0	0	177,439	323,549	8.92%	0.02%
Investment Grade	347,478	3,222	0	0	177,439	528,140	14.55%	0.02%
BB- to BB+	0	0	0	0	0	0	0.00%	0.00%
B- to B+	0	170,740	0	0	102,136	272,876	7.52%	0.01%
CCC+ and below	0	0	0	0	0	0	0.00%	0.00%
Not Rated	12,045	339,632	506,624	203,230	1,766,294	2,827,825	77.93%	0.13%
Non-Investment Grade	12,045	510,372	506,624	203,230	1,868,430	3,100,700	85.45%	0.15%
Total Quintile Excess Collateral	359,524	513,593	506,624	203,230	2,045,869	3,628,840	100.00%	0.17%
Percent Quintile Excess Collateral	9.91%	14.15%	13.96%	5.60%	56.38%	100.00%		
Percent Total Excess Collateral	0.02%	0.02%	0.02%	0.01%	0.10%	0.17%		

Quintile Distribution of Average TPE by Rating and Category								
Rating Group	CRR Only	Gen Only	Load Only	Load and Gen	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+	7,905	0	0	0	0	7,905	0.3%	0.00%
BBB- to BBB+	7,112	229	0	0	322,561	329,902	11.1%	0.10%
Investment Grade	15,017	229	0	0	322,561	337,807	11.4%	0.10%
BB- to BB+	0	0	0	0	0	0	0.0%	0.00%
B- to B+	0	14,304	0	0	0	14,304	0.5%	0.00%
CCC+ and below	0	0	0	0	0	0	0.0%	0.00%
Not Rated	843	212,692	439,242	201,790	1,766,870	2,621,438	88.2%	0.77%
Non-Investment Grade	843	226,996	439,242	201,790	1,766,870	2,635,741	88.64%	0.78%
Quintile Average TPE	15,860	227,226	439,242	201,790	2,089,431	2,973,549	100.0%	0.88%
Percent Quintile Average TPE	0.5%	7.6%	14.8%	6.8%	70.3%	100.0%		
Percent Total Average TPE	0.00%	0.07%	0.13%	0.06%	0.62%	0.88%		

Credit Exposure Update

Average TPE and Collateral Distribution by Rating Category

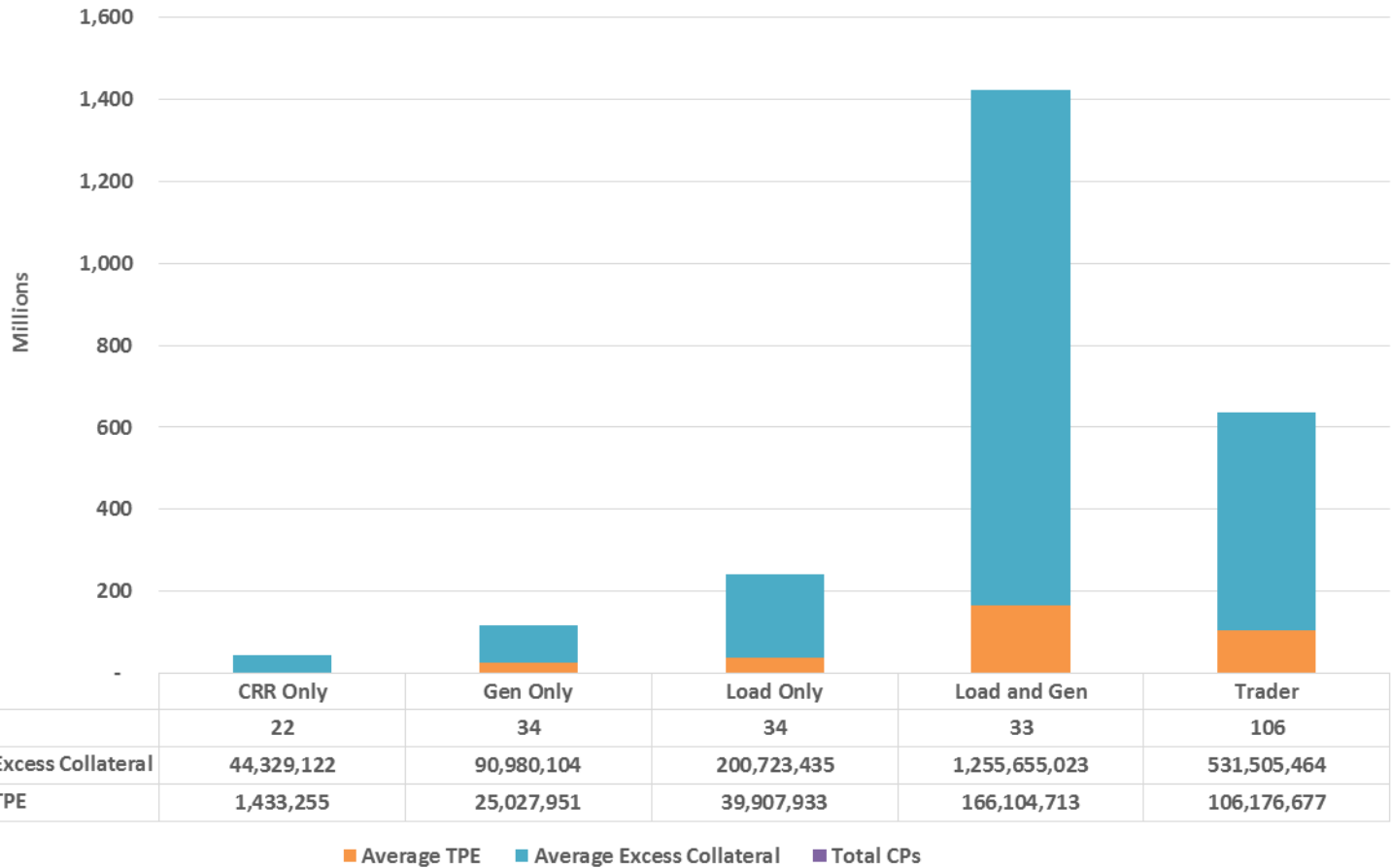


	AAA	AA- to AA+	A- to A+	BBB- to BBB+	BB- to BB+	B- to B+	CCC+ and below	Not Rated
■ Total CPs	0	10	17	25	4	10	0	163
■ Average Excess Collateral	0	36,673,887	453,705,723	585,471,877	120,262,742	191,077,193	0	736,001,727
■ Average TPE	0	7,567,730	35,528,911	90,621,614	17,533,717	70,871,950	0	116,526,607

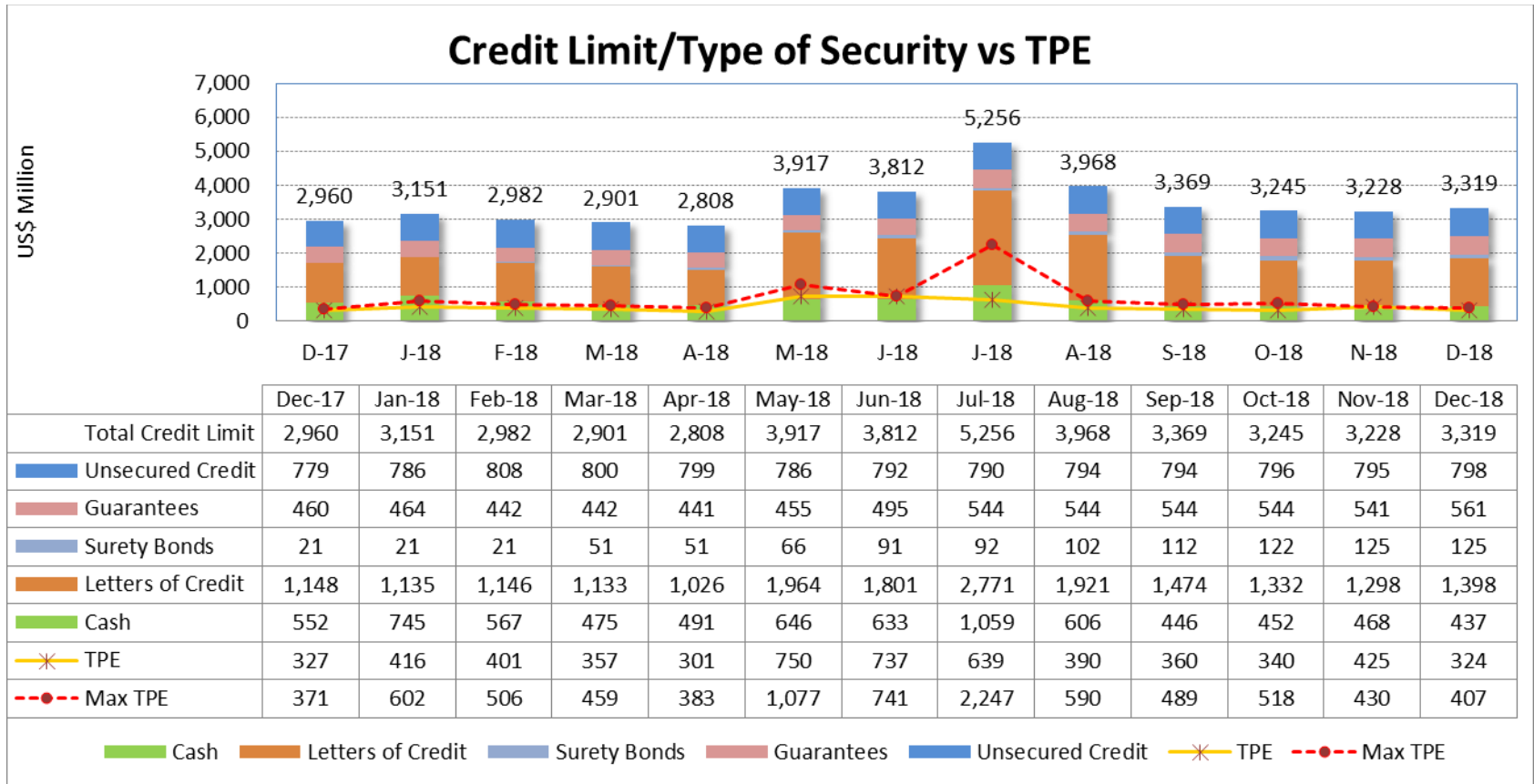
■ Average TPE ■ Average Excess Collateral ■ Total CPs

Credit Exposure Update

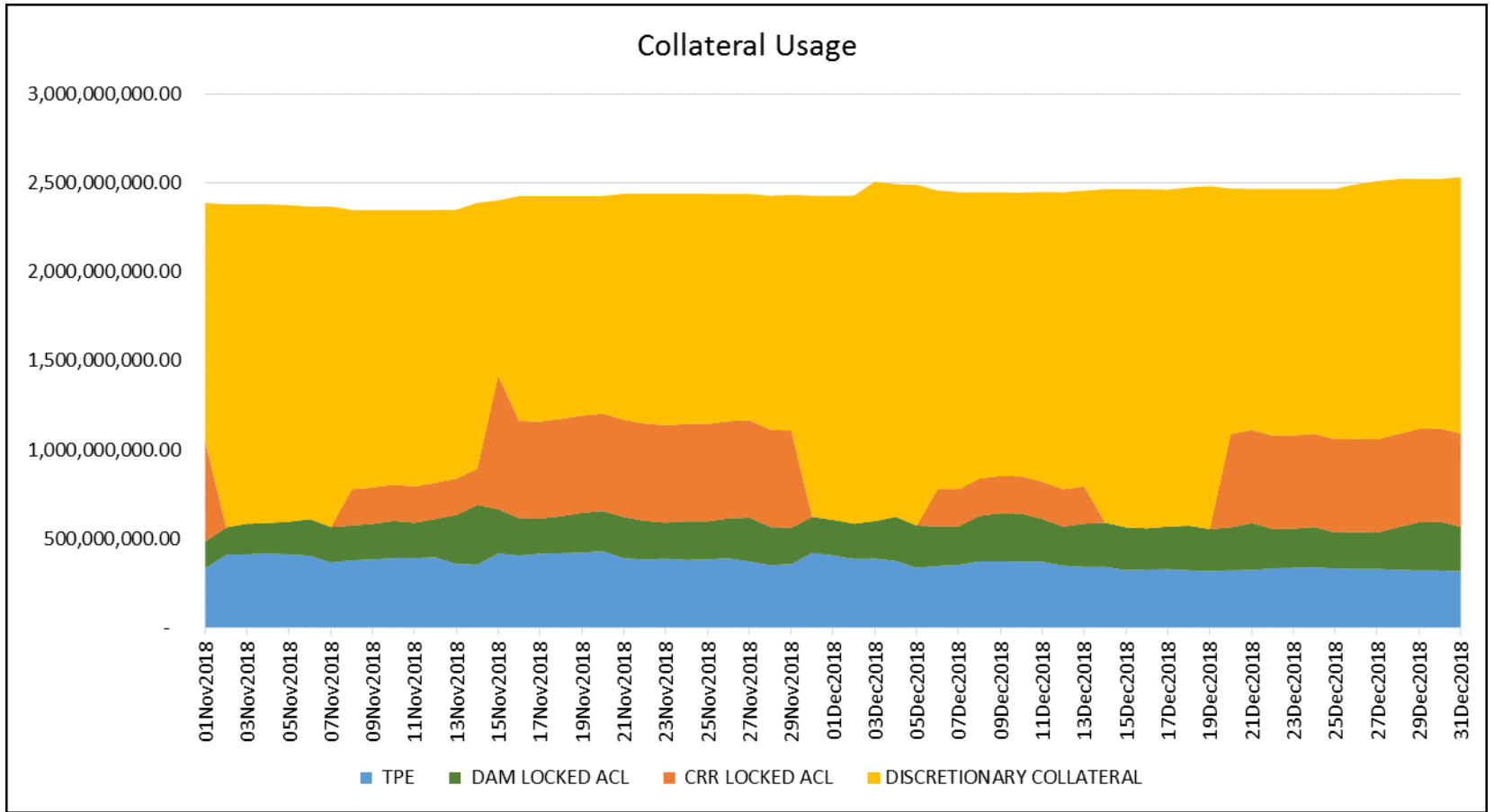
Average TPE and Collateral Distribution by Market Segment



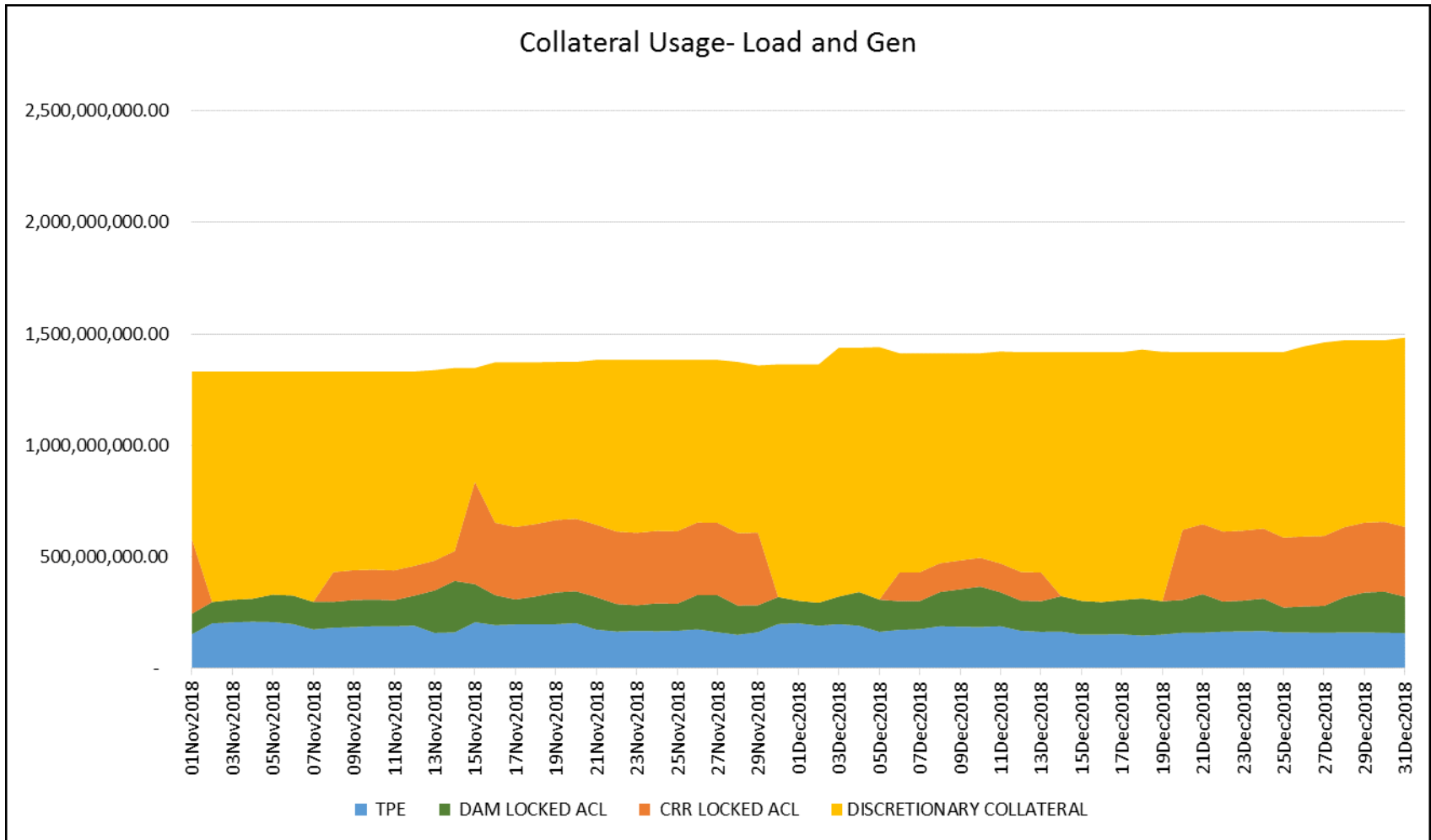
Credit Exposure Update



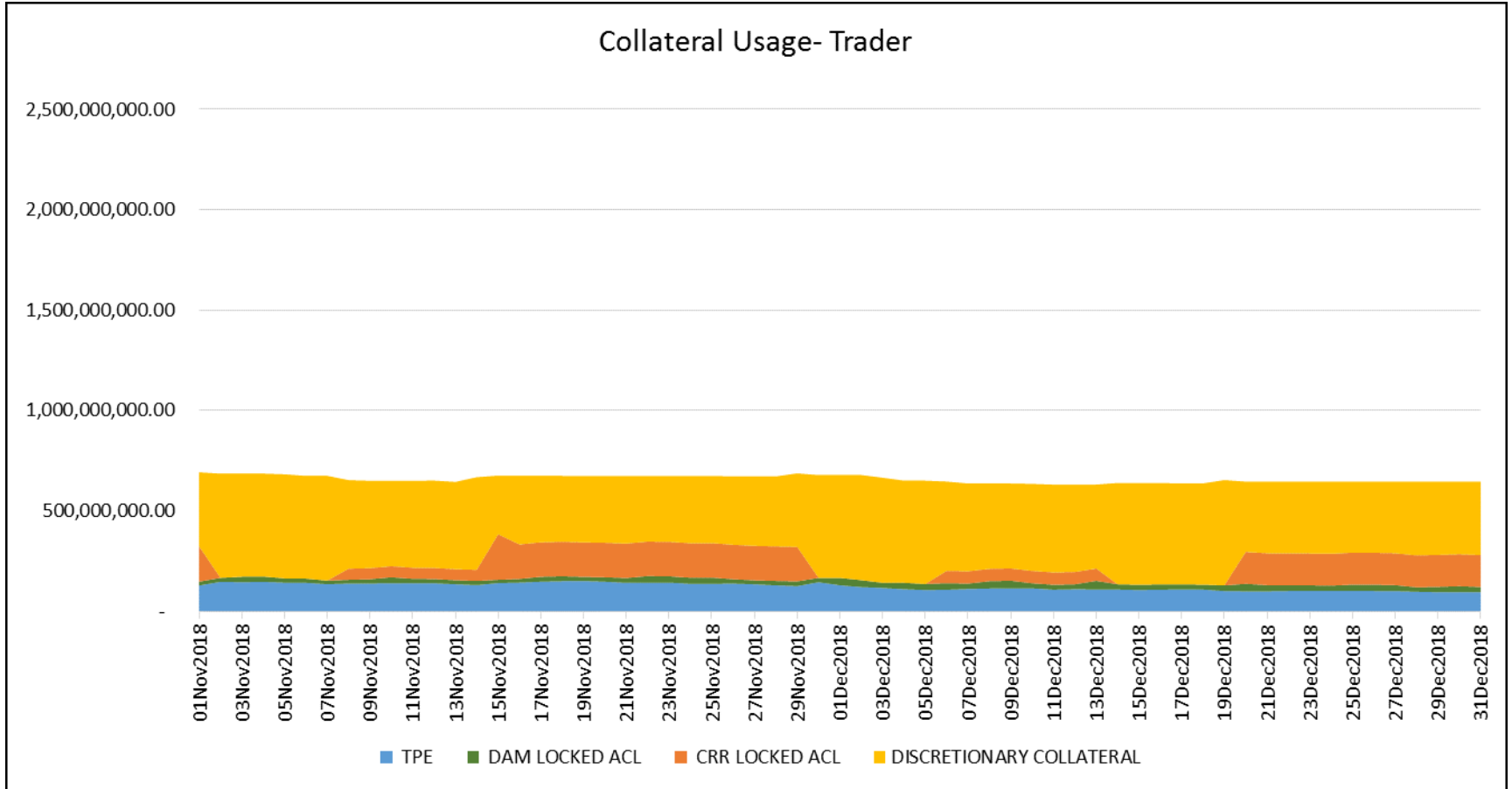
Credit Exposure Update



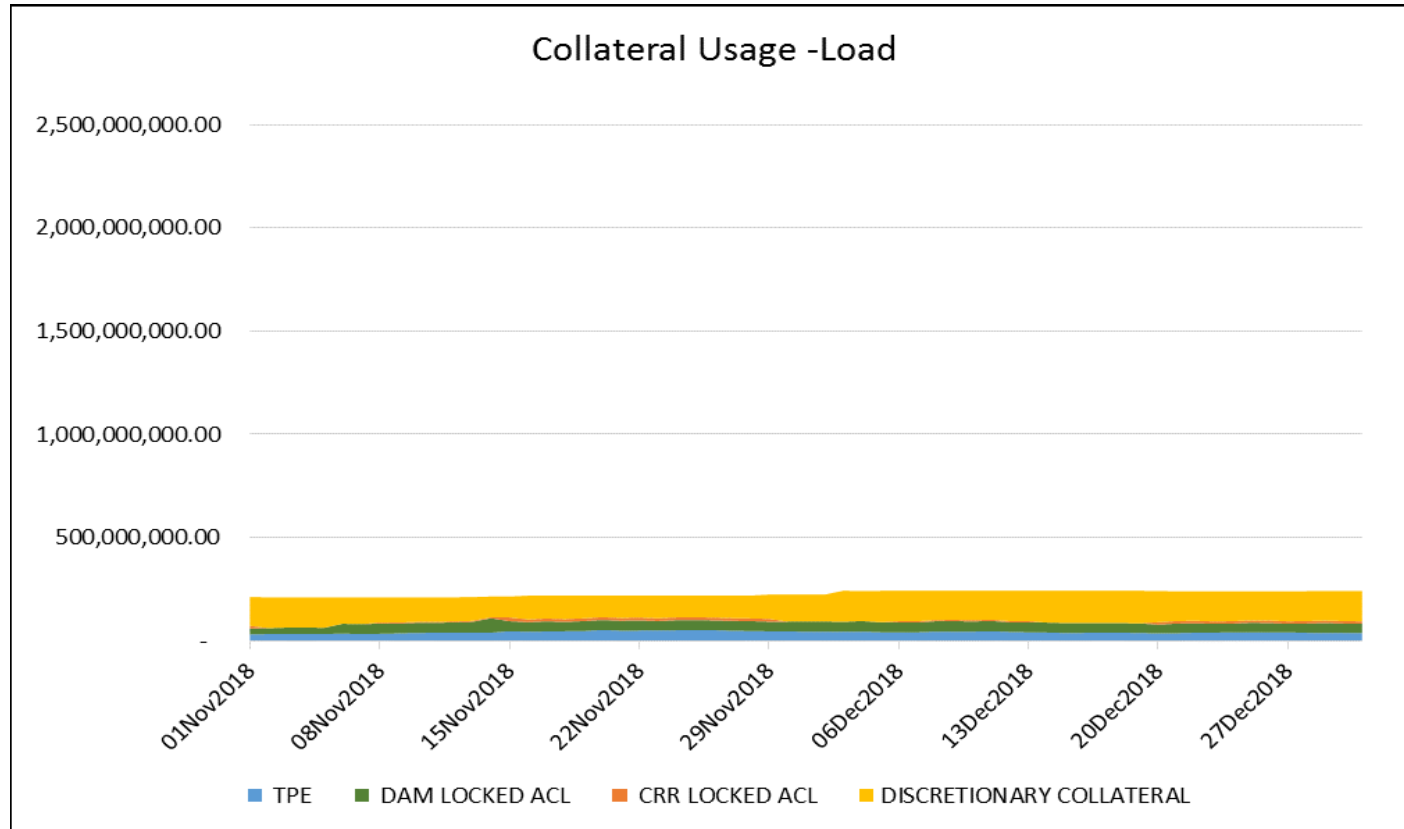
Credit Exposure Update



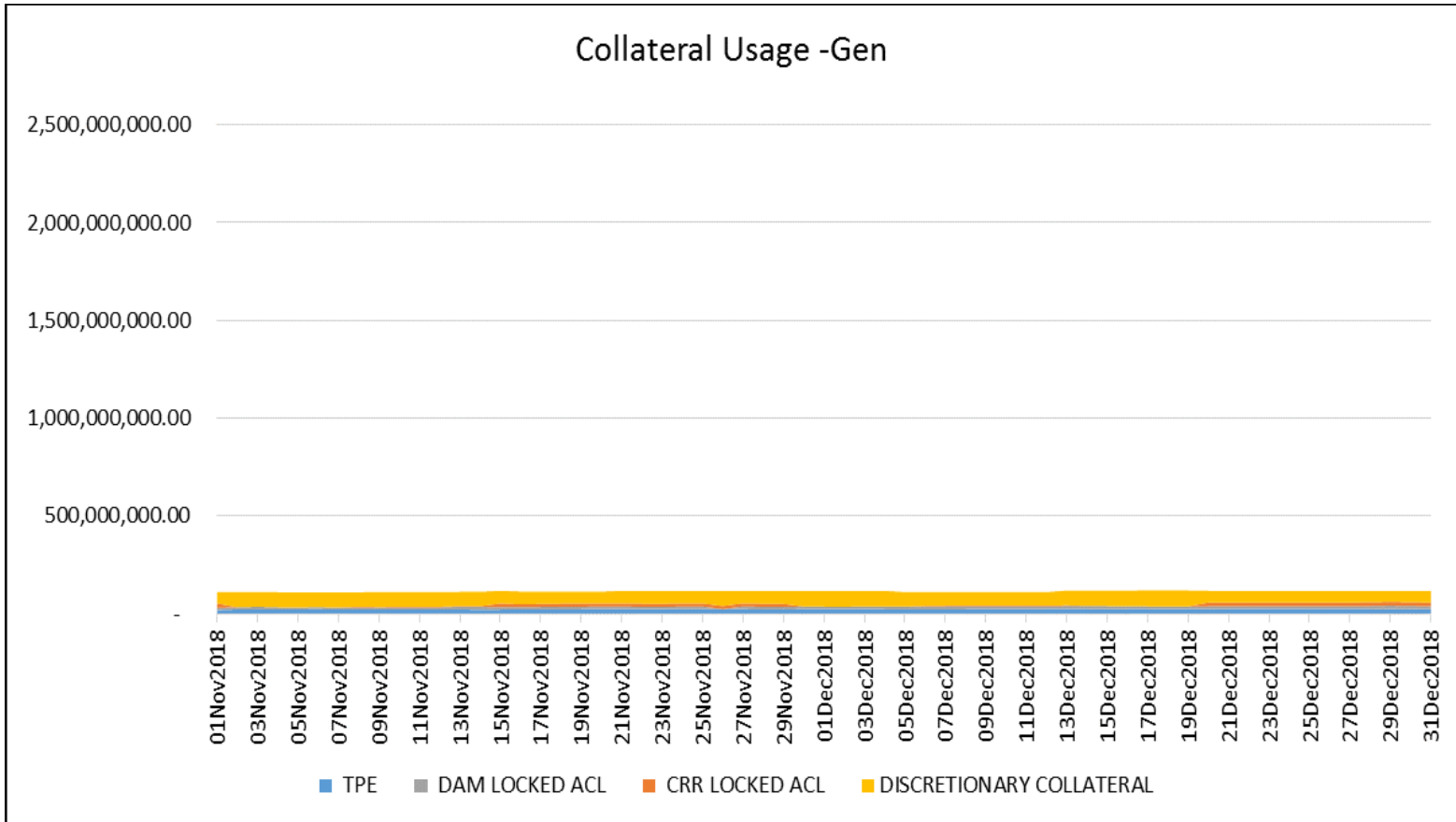
Credit Exposure Update



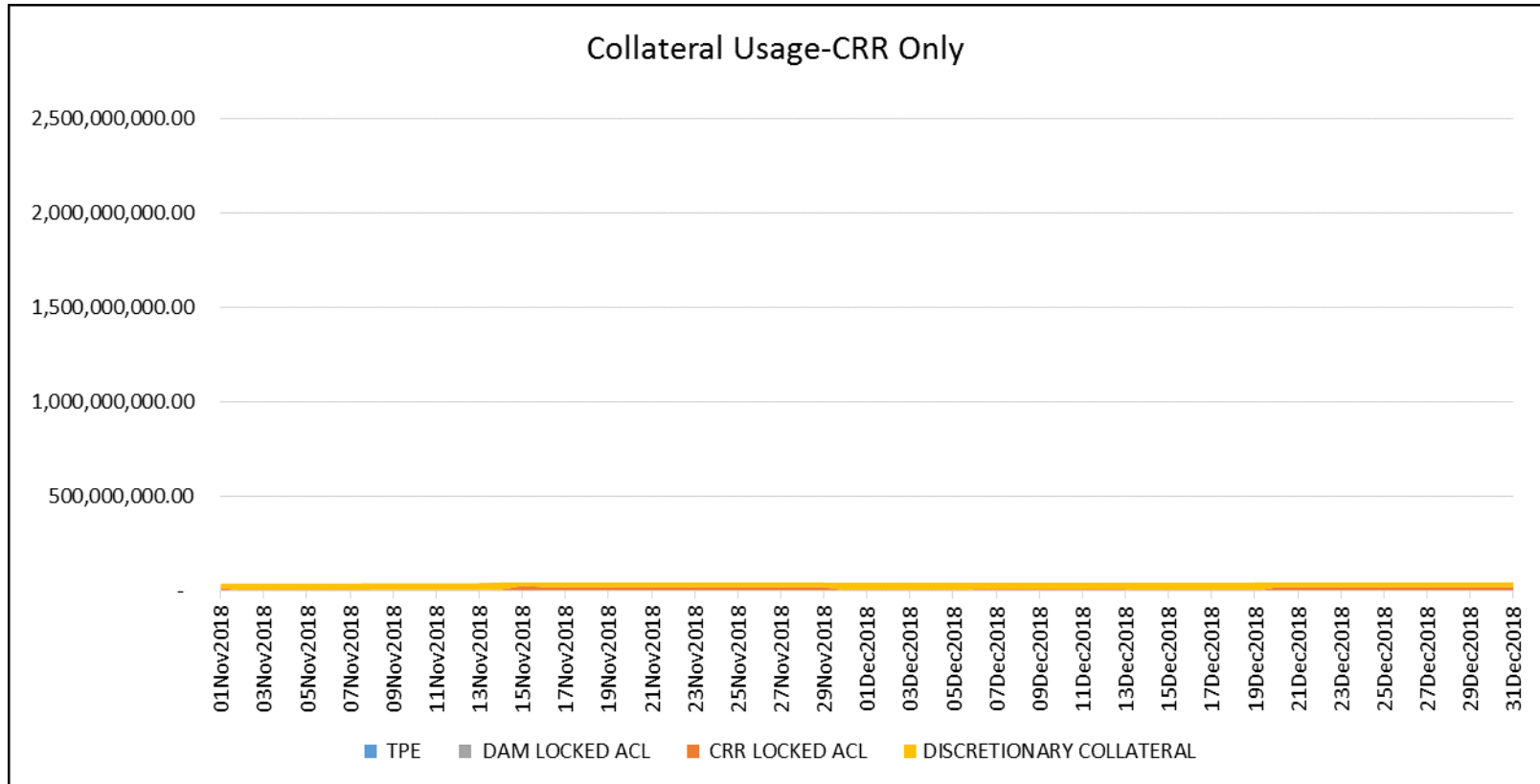
Credit Exposure Update



Credit Exposure Update



Credit Exposure Update



Market Entry Qualifications

Following the GreenHat Energy LLC default in the PJM market, one of the PJM lessons learned was to broaden the scope of information required on the PJM credit application (source: PJM).

Recommendations:

1. Application inquiries should be expanded to address additional items, such as whether an applicant or its owners have been the subject of regulatory investigations in the past, whether an applicant has ever had its market based rate authority suspended or terminated, whether an applicant has ever had its retail supplier license suspended or terminated, etc.
2. Application should include language stating that the responses to inquiries on the member application form authorize PJM to request additional information and may be used as the basis for PJM to deny a membership application.

Timeline for change:

This change will be made within the next 30 days.

2019 Draft Credit Work Group Goals

- 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

Other CWG Topics for Discussion

- The Credit Work Group reviewed the CWG Charter and made no recommendations for changes to be considered by F&A as part of their annual review and approval process.
- A simulated 'Mass Transition' exercise is in the planning stage for later in 2019 to be held in conjunction with the TDSPs and POLR REPs in each of the competitive load zones. Lessons learned from the June 2018 Mass Transition and the May 2018 Mass Transition desktop exercise will be incorporated into the new exercise. Approximately 3,000 ESI IDs are anticipated to be included in the exercise.

Questions?