Item 5: Periodic Report on Credit Work Group Activity

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Chair, Credit Work Group

Finance & Audit Committee Meeting

ERCOT Public
December 10, 2018

Credit Work Group Update – Reviewed NPRRs

- **NPRRs Reviewed Without Credit Impact (email vote)**
  - NPRR 871 – Customer or Resource Entity Funded Transmission Projects Review Process
  - NPRR 882 – Related to PGRR067, Procedures for Wind and Solar Equipment Change
  - NPRR 884 – Adjustments to Pricing and Settlement for Reliability Unit Commitments (RUCs) of On-Line Combined Cycle Generation Resources
  - NPRR 892 – Non-Spin Reserve Energy Floor Clarification.
  - NPRR 893 – Clarification of Fuel Index Price and Incorporation of System-Wide Offer Cap and Scarcity Pricing Mechanism Methodology into Protocols
  - NPRR 897 – Adjustments to Black Start Service (BSS) Procurement Timeline and Testing
  - NPRR 898 – Modify Language on Returning Original EPS Metering Site Certification Documents to the TDSP
  - NPRR 899 – Digital Certificate and User Security Administrator Clarifications and Opt Out Procedure
  - NPRR 901 – Switchable Generation Resource Status Code

NPRR 850 – Market Suspension and Restart

- ERCOT employed stakeholder feedback to develop a principles-based approach to Market Suspension and Market Restart.
- ERCOT has drafted proposed language to handle collateral requests during the transition from pre-to post-market restart. Credit considerations include:
  - ERCOT given sole discretion to set an Unsecured Credit Limit for Counter-Parties not otherwise eligible
  - Waive in part or in full the requirement for Counter-Parties to maintain designated amounts of Secured and/or Remainder Collateral
  - Forego the requirement to provide prompt notice to Counter-Parties of the need to increase Financial Security
  - Extend the timelines to allow Counter-Parties to make arrangements to provide collateral, without unmet requests for collateral being designated as Late Payments
- As of December 2018, NPRR 850 is tabled at PRS and referred to Credit Work Group and Market Settlement Working Group.
- Credit Work Group will review NPRR 850 in detail, including recently filed comments, at its December 2018 meeting.

Discussion of NPRR 800 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) • Week 1 • Week 2 • Week 3	 1/3 1/3 1/3
Day-Ahead Weight Factors for Forward Week (DWF) • 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	
• M1a (no. of days for termination upon default) • M1b (minimum no. of days to transition; based on no. of ESI IDs) ➢ ESI ID daily transition rate (to determine no. of days to transition)	12 8 100,000
RTLE Look-Back • No Load or Gen (NPRR 620; for implementation) • All Others	 20 40

M1a / M1b – Number of Days in a Mass Transition

M1a - NPRR 907 to reflect 'actual forward banking days'

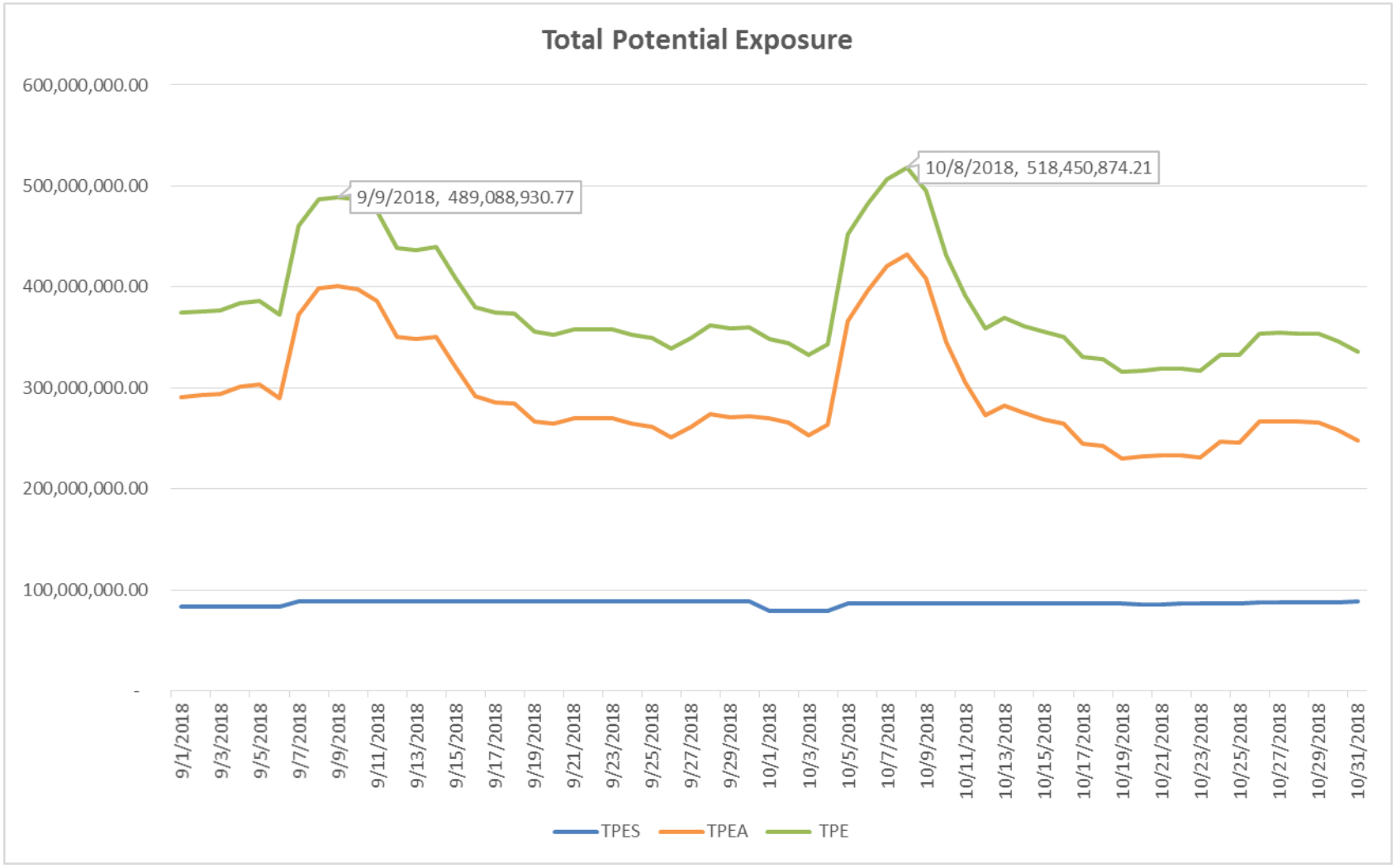
	Best Case	Worst Case	Day	Q1 Best case	Q1 Worst case	Q2 Best case	Q2 Worst case	Q3 Best case	Q3 Worst case	Q4 Best case	Q4 Worst case
Initial transaction	M1a		1	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Tue.)
Collateral call issuance			2	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Wed.)
Collateral call cure (2 Bank Business Days)			3	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Thur.)
Breach notice issuance			4	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Fri.)
Breach cure (1 Bank Business Day)			5	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Sat.)
Termination, Mass Transition notification			6	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Sun.)
Mass Transition		M1a	7	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Mon.)
Mass Transition complete (min two days)	M1b		8	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Tue.)
			9	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Wed.)
			10	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Thur.)
			11	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Fri.)
			12	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Sat.)
			13	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Sun.)
		M1b	14	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Mon.)
			15	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Tue.)
			16	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Wed.)
			17	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Thur.)
			18	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Fri.)
			19	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Sat.)
			20	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Sun.)
			21	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Mon.)
			22	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Tue.)
			23	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Wed.)
			24	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Thur.)
			25	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Fri.)
			26	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Sat.)
			27	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Sun.)
			28	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Mon.)
			29	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Tue.)
			30	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Wed.)
			31	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Thur.)
			32	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Fri.)
			33	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Sat.)
			34	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Sun.)
			35	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Wed.)	(Sun.)	(Mon.)
			36	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Thur.)	(Mon.)	(Tue.)
			37	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Fri.)	(Tue.)	(Wed.)
			38	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Sat.)	(Wed.)	(Thur.)
			39	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Sun.)	(Thur.)	(Fri.)
			40	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Mon.)	(Fri.)	(Sat.)
			41	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Tue.)	(Sat.)	(Sun.)

Credit Exposure Update

October 2018 compared to September 2018

- Market-wide average TPE decreased from $392.2 million to $369.3 million.
  - TPE decreased by $44.4 million for “Load and Gen” category.
  - TPE increased by $21.7 million for “Trader” category.
- Average Excess collateral decreased from $2,470.2 million to $2,090.9 million.
  - decreased by $312.4 million for “Load and Gen” category
  - decreased by $37.2 million for “Trader” category.
  - decreased by $32.9 million for “Load Only” category.
- Number of active Counter-Parties increased from 222 to 225.

Credit Exposure Update



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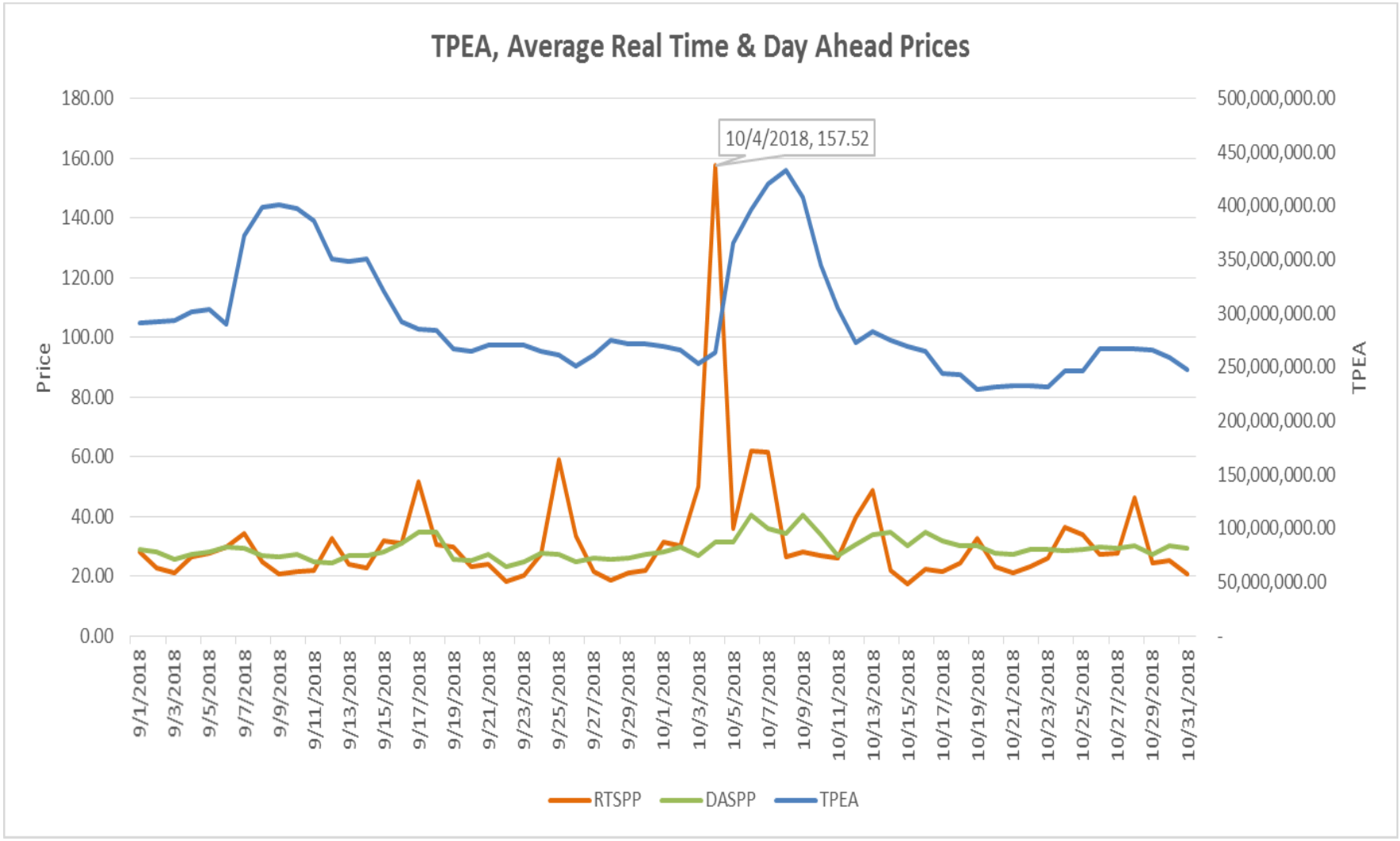

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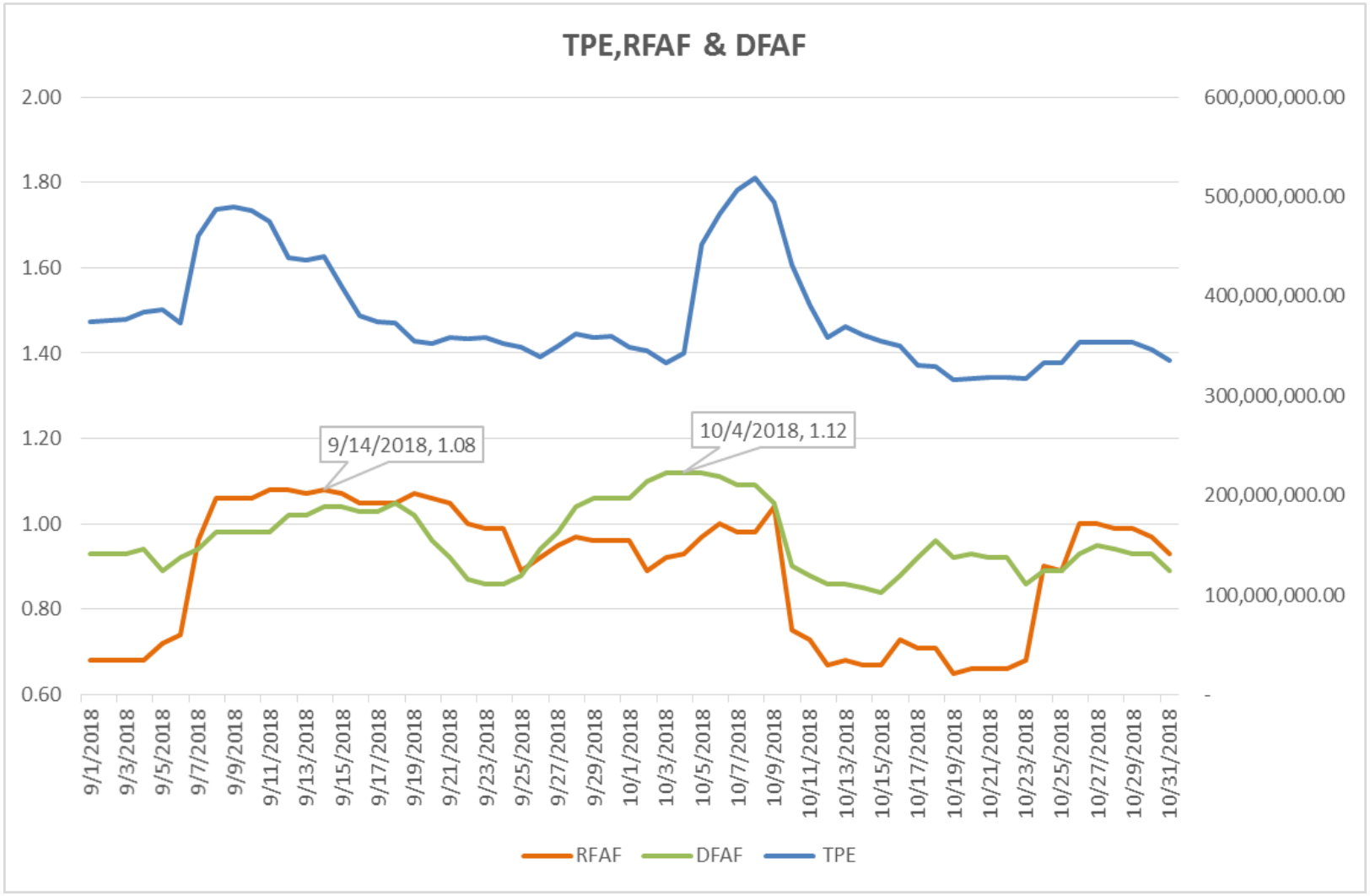

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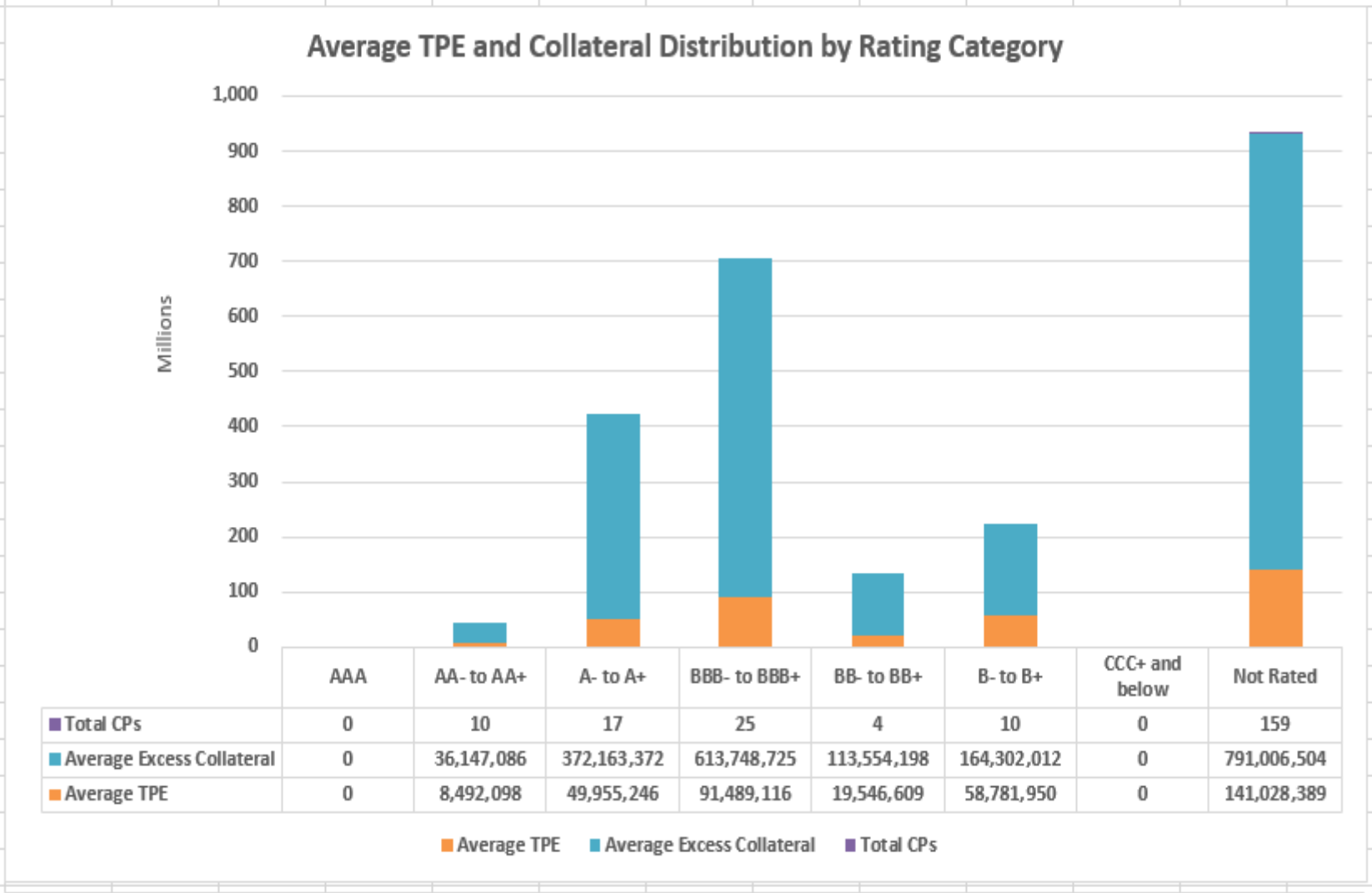
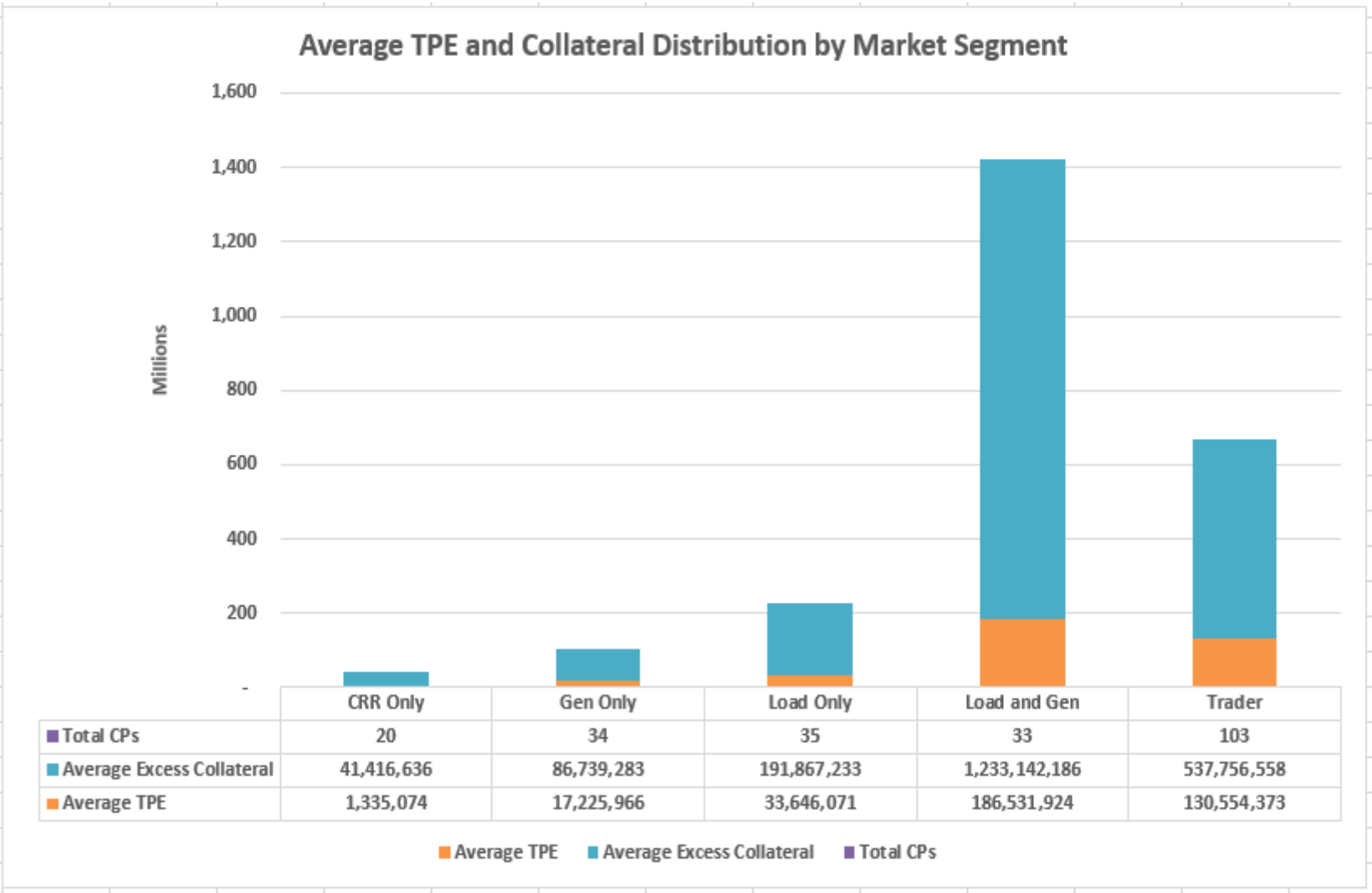


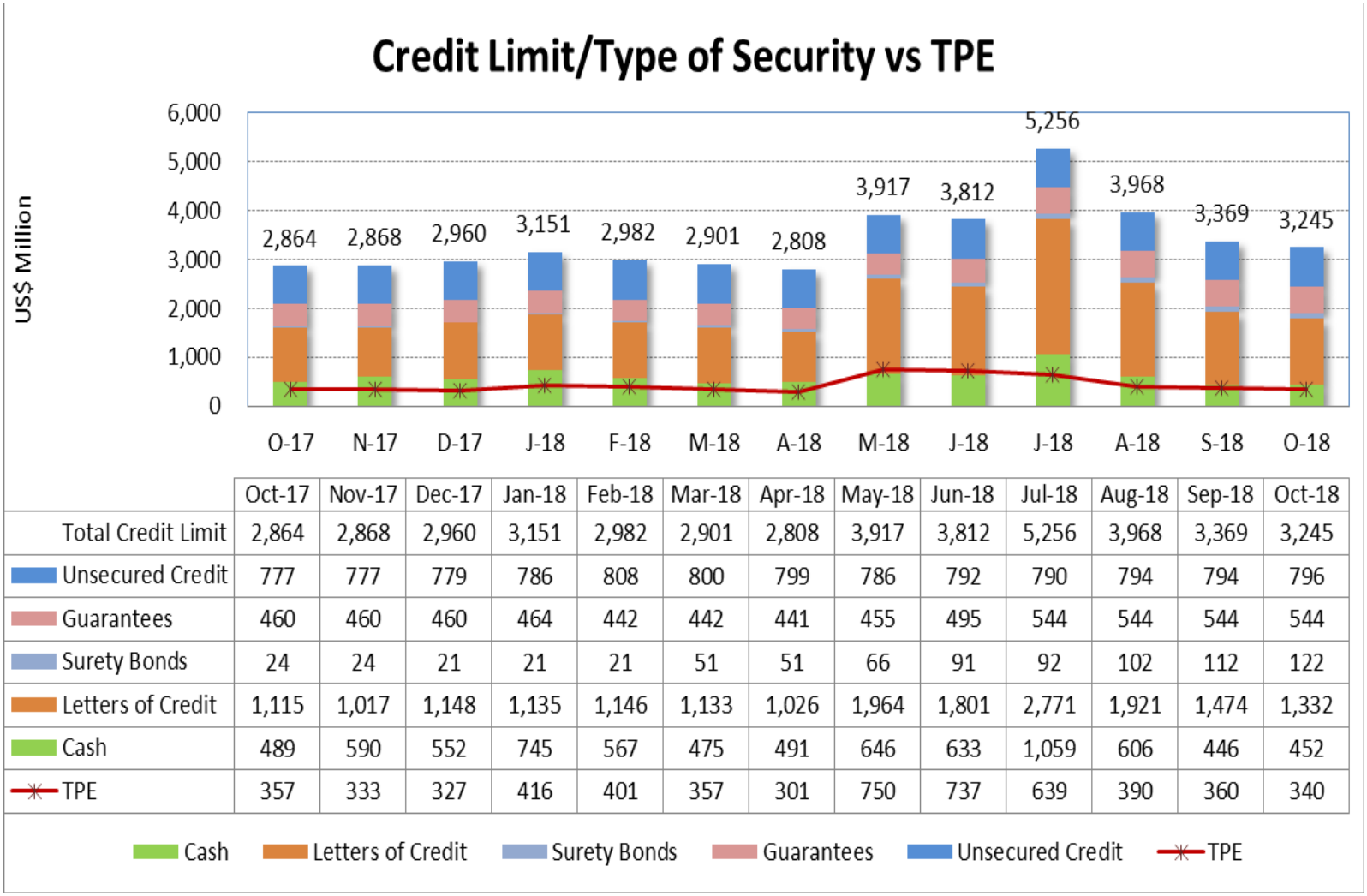
	AAA	AA- to AA+	A- to A+	BBB- to BBB+	BB- to BB+	B- to B+	CCC+ and below	Not Rated
Total CPs	0	10	17	25	4	10	0	159
Average Excess Collateral	0	36,147,086	372,163,372	613,748,725	113,554,198	164,302,012	0	791,006,504
Average TPE	0	8,492,098	49,955,246	91,489,116	19,546,609	58,781,950	0	141,028,389

Credit Exposure Update



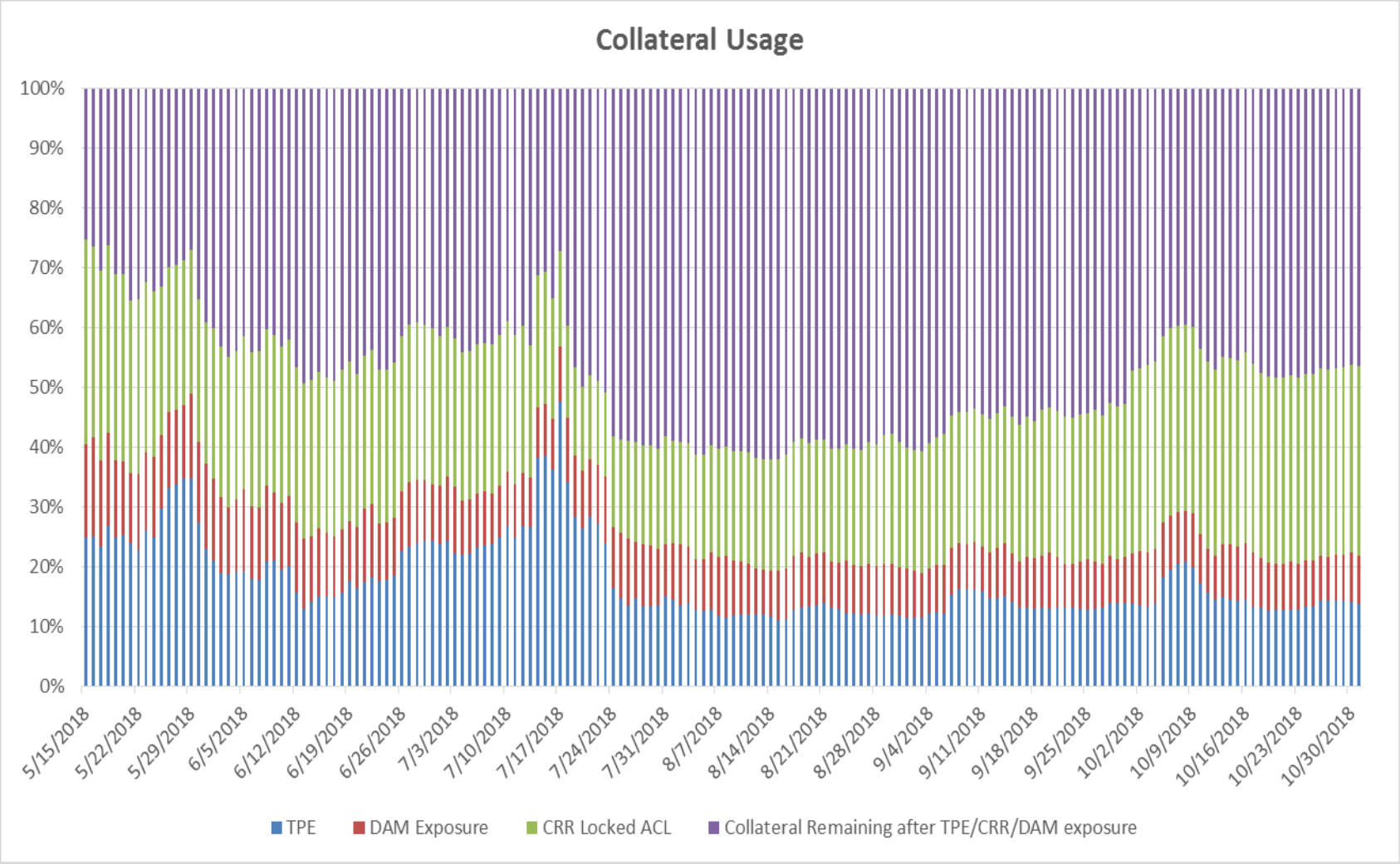
	CRR Only	Gen Only	Load Only	Load and Gen	Trader
Total CPs	20	34	35	33	103
Average Excess Collateral	41,416,636	86,739,283	191,867,233	1,233,142,186	537,756,558
Average TPE	1,335,074	17,225,966	33,646,071	186,531,924	130,554,373

Credit Exposure Update



	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
Total Credit Limit	2,864	2,868	2,960	3,151	2,982	2,901	2,808	3,917	3,812	5,256	3,968	3,369	3,245
Unsecured Credit	777	777	779	786	808	800	799	786	792	790	794	794	796
Guarantees	460	460	460	464	442	442	441	455	495	544	544	544	544
Surety Bonds	24	24	21	21	21	51	51	66	91	92	102	112	122
Letters of Credit	1,115	1,017	1,148	1,135	1,146	1,133	1,026	1,964	1,801	2,771	1,921	1,474	1,332
Cash	489	590	552	745	567	475	491	646	633	1,059	606	446	452
TPE	357	333	327	416	401	357	301	750	737	639	390	360	340

Credit Exposure Update



Counter-Party Credit Changes July-August 2018

Summary of distribution by Category

Category	CP Distribution			Average TPE Distribution			Average Excess Collateral Distribution		
	Sep-18	Oct-18	Change	Sep-18	Oct-18	Change	Sep-18	Oct-18	Change
CRR Only	9.46%	8.89%	-0.57%	0.38%	0.36%	-0.02%	1.94%	1.98%	0.04%
Gen Only	15.32%	15.11%	-0.20%	3.93%	4.66%	0.74%	3.12%	4.15%	1.03%
Load Only	15.77%	15.56%	-0.21%	9.05%	9.11%	0.07%	9.10%	9.18%	0.08%
Load and Gen	14.9%	14.7%	-0.20%	58.90%	50.51%	-8.39%	62.57%	58.98%	-3.59%
Trader	44.6%	45.8%	1.18%	27.75%	35.35%	7.60%	23.28%	25.72%	2.44%

Number of CPs that are Active by Rating and Category

Rating Group	CRR Only	Gen Only	Load Only	Load and Gen	Trader	Total CPs	Percent CPs
AAA	0	0	0	0	0	0	**0.00%**
AA- to AA+	5	0	0	5	0	10	**4.44%**
A- to A+	3	1	3	7	3	17	**7.56%**
BBB- to BBB+	2	5	5	9	4	25	**11.11%**
Investment Grade	**10**	**6**	**8**	**21**	**7**	**52**	**23.11%**
BB- to BB+	0	0	2	1	1	4	**1.78%**
B- to B+	0	1	0	4	5	10	**4.44%**
CCC+ and below	0	0	0	0	0	0	**0.00%**
Not Rated	10	27	25	7	90	159	**70.67%**
Non Investment Grade	**10**	**28**	**27**	**12**	**96**	**173**	**76.89%**
Total CPs	**20**	**34**	**35**	**33**	**103**	**225**	**100.00%**
Percent CPs	**8.89%**	**15.11%**	**15.56%**	**14.67%**	**45.78%**	**100.00%**	

Counter-Party Credit Exposure – August 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+	453,666	0	0	8,038,432	0	8,492,098	2.30%
A- to A+	73,373	448,996	7,871,669	40,117,308	1,443,900	49,955,246	13.53%
BBB- to BBB+	0	3,468,971	9,525,939	52,714,431	25,779,775	91,489,116	24.77%
Investment Grade	**527,038**	**3,917,967**	**17,397,608**	**100,870,171**	**27,223,675**	**149,936,459**	**40.60%**
BB- to BB+	0	0	10,424,122	1,686,683	7,435,804	19,546,609	5.29%
B- to B+	0	7,068	0	35,945,380	22,829,501	58,781,950	15.92%
CCC+ and below	0	0	0	0	0	0	0.00%
Not Rated	808,035	13,300,930	5,824,341	48,029,690	73,065,392	141,028,389	38.19%
Non-Investment Grade	**808,035**	**13,307,999**	**16,248,463**	**85,661,753**	**103,330,698**	**219,356,948**	**59.40%**
Total TPE	**1,335,074**	**17,225,966**	**33,646,071**	**186,531,924**	**130,554,373**	**369,293,407**	**100.00%**
Percent TPE	**0.36%**	**4.66%**	**9.11%**	**50.51%**	**35.35%**	**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+	6,645,629	0	0	29,501,457	0	36,147,086	1.73%
A- to A+	14,255,484	34,551,004	52,150,912	214,591,069	56,614,902	372,163,372	17.80%
BBB- to BBB+	3,150,000	26,297,507	79,454,717	378,778,000	126,068,500	613,748,725	29.35%
Investment Grade	**24,051,113**	**60,848,511**	**131,605,629**	**622,870,527**	**182,683,403**	**1,022,059,183**	**48.88%**
BB- to BB+	0	0	39,580,923	22,869,169	51,104,106	113,554,198	5.43%
B- to B+	0	177,976	0	131,541,721	32,582,315	164,302,012	7.86%
CCC+ and below	0	0	0	0	0	0	0.00%
Not Rated	17,365,523	25,712,797	20,680,681	455,860,769	271,386,735	791,006,504	37.83%
Non-Investment Grade	**17,365,523**	**25,890,773**	**60,261,604**	**610,271,659**	**355,073,155**	**1,068,862,714**	**51.12%**
Total Excess Collateral	**41,416,636**	**86,739,283**	**191,867,233**	**1,233,142,186**	**537,756,558**	**2,090,921,897**	**100.00%**
Percent Excess Collateral	**1.98%**	**4.15%**	**9.18%**	**58.98%**	**25.72%**	**100.00%**	

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

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+	49,344	0	0	0	0	49,344	1.4%	0.01%
BBB- to BBB+	0	131	0	0	0	131	0.0%	0.00%
Investment Grade	**49,344**	**131**	**0**	**0**	**0**	49,475	1.4%	0.01%
BB- to BB+	0	0	0	0	0	0	0.0%	0.00%
B- to B+	0	7,068	0	0	744	7,812	0.2%	0.00%
CCC+ and below	0	0	0	0	0	0	0.0%	0.00%
Not Rated	6,381	212,354	773,036	201,314	2,214,087	3,407,172	98.3%	0.92%
Non-Investment Gra	**6,381**	**219,422**	**773,036**	**201,314**	**2,214,831**	3,414,984	98.57%	0.92%
Quintile Average TPE	55,725	219,553	773,036	201,314	2,214,831	3,464,458	100.0%	0.94%
Percent Quintile Average TPE	1.6%	6.3%	22.3%	5.8%	63.9%	100.0%		
Percent Total Average TPE	0.02%	0.06%	0.21%	0.05%	0.60%	0.94%		

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+	279,513	0	0	0	0	279,513	7.39%	0.01%
BBB- to BBB+	150,000	3,320	0	0	0	153,320	4.05%	0.01%
Investment Grade	**429,513**	**3,320**	**0**	**0**	**0**	432,833	11.44%	0.02%
BB- to BB+	0	0	0	0	0	0	0.00%	0.00%
B- to B+	0	177,976	0	0	101,392	279,367	7.38%	0.01%
CCC+ and below	0	0	0	0	0	0	0.00%	0.00%
Not Rated	269,361	270,252	826,364	203,705	1,502,580	3,072,262	81.18%	0.15%
Non-Investment Gra	**269,361**	**448,228**	**826,364**	**203,705**	**1,603,972**	3,351,630	88.56%	0.16%
Total Quintile Excess Collateral	698,874	451,548	826,364	203,705	1,603,972	3,784,463	100.00%	0.18%
Percent Quintile Excess Collateral	18.47%	11.93%	21.84%	5.38%	42.38%	100.00%		
Percent Total Excess Collateral	0.03%	0.02%	0.04%	0.01%	0.08%	0.18%		

Review of 2018 Credit Working Group Goals

- Review the implementation of NPRR800, the incorporation of a forward price curve-based methodology in collateral requirement calculations
- Provide support to the ERCOT stakeholder process for Market Suspension and Restart (NPRR850)
- 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
- Explore potential usage of letter of credit/credit insurance
- Pursue a calculator to allow market participants to calculate their requirements for CRR auctions

Other CWG Topics for Discussion

- ERCOT is working on preparing a scenario analysis of the expected credit exposures in a ‘stressed’ market, however actual market events have largely matched the stress case scenarios and actual market data may offer better opportunities for analysis than the scenario data. ERCOT will revisit the ‘stressed’ market scenario at a later date.
- A simulated ‘mass transition’ exercise is in the planning stage for late 2018 or early 2019 to be held in conjunction with the TDSPs and POLR REPs in each of the competitive load zones. Lessons learned from the Breeze Energy mass transition and May 2018 desktop exercise will be incorporated into the new exercise. Approximately 10,000 ESI IDs are anticipated to be included in the exercise.

Questions?