



Item 5.4: 2018 Credit Overview

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Board of Directors Meeting

June 12, 2018

ERCOT Public

Issues for Summer 2018

- Impact of the implementation of NPRR 800
- Letters of credit issuer limit
- Mass Transition drill

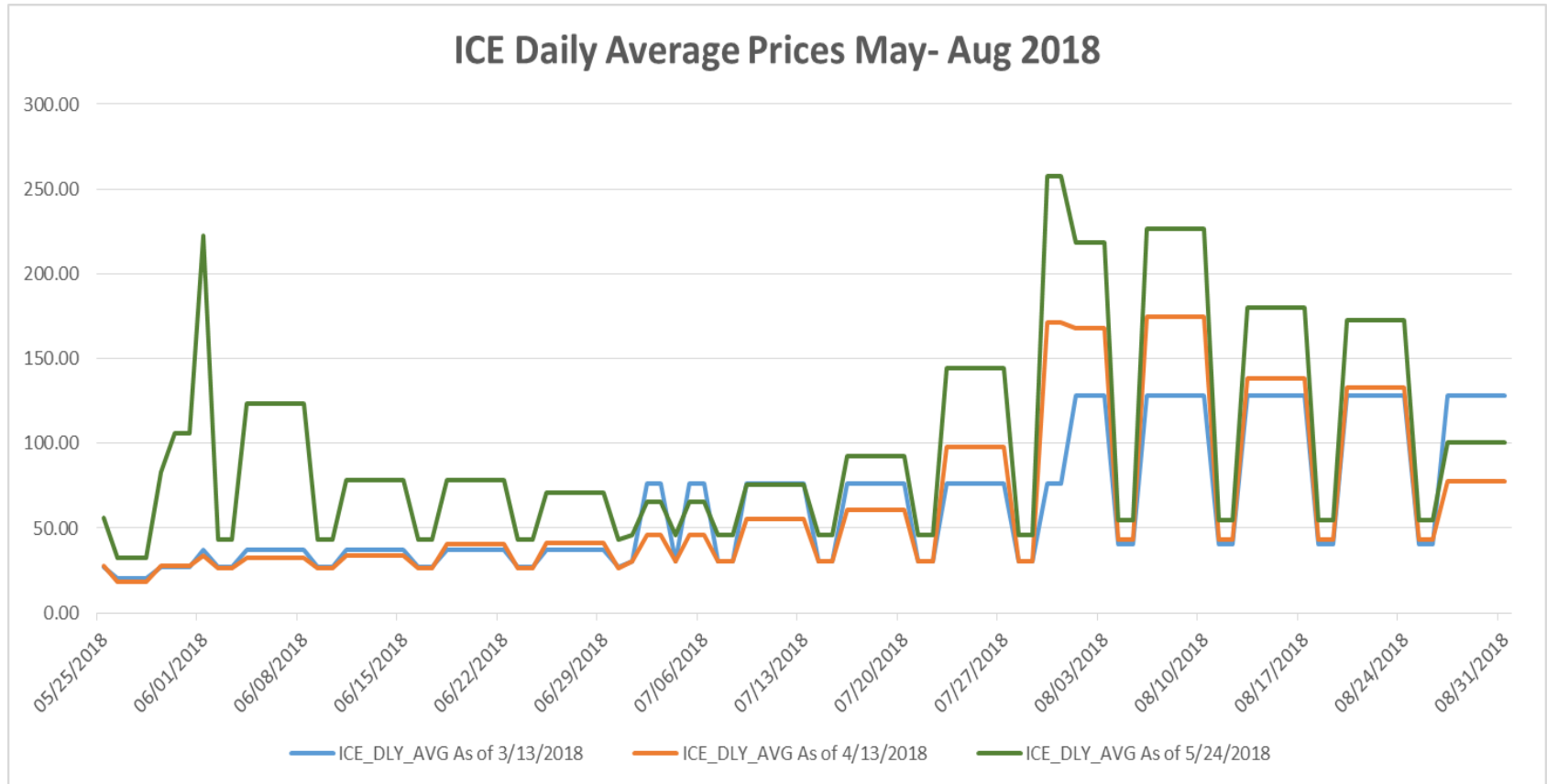
Impact of Forward ERCOT Prices

NPRR 800, Revisions to Credit Exposure Calculations to Use Electricity Futures Market Prices, was implemented along with three other NPRRs on February 7, 2018. NPRR 800 represents a fundamental revision in ERCOT credit exposure calculations.

- Real-Time and Day-Ahead components of the credit exposure calculation are adjusted by the ratio of ICE forward ERCOT North Hub prices to lagging historic ERCOT prices.
- Therefore, a large increase in ICE prices will be reflected in increased credit requirements.
- Forward prices are incorporated on a rolling forward 21-day horizon.

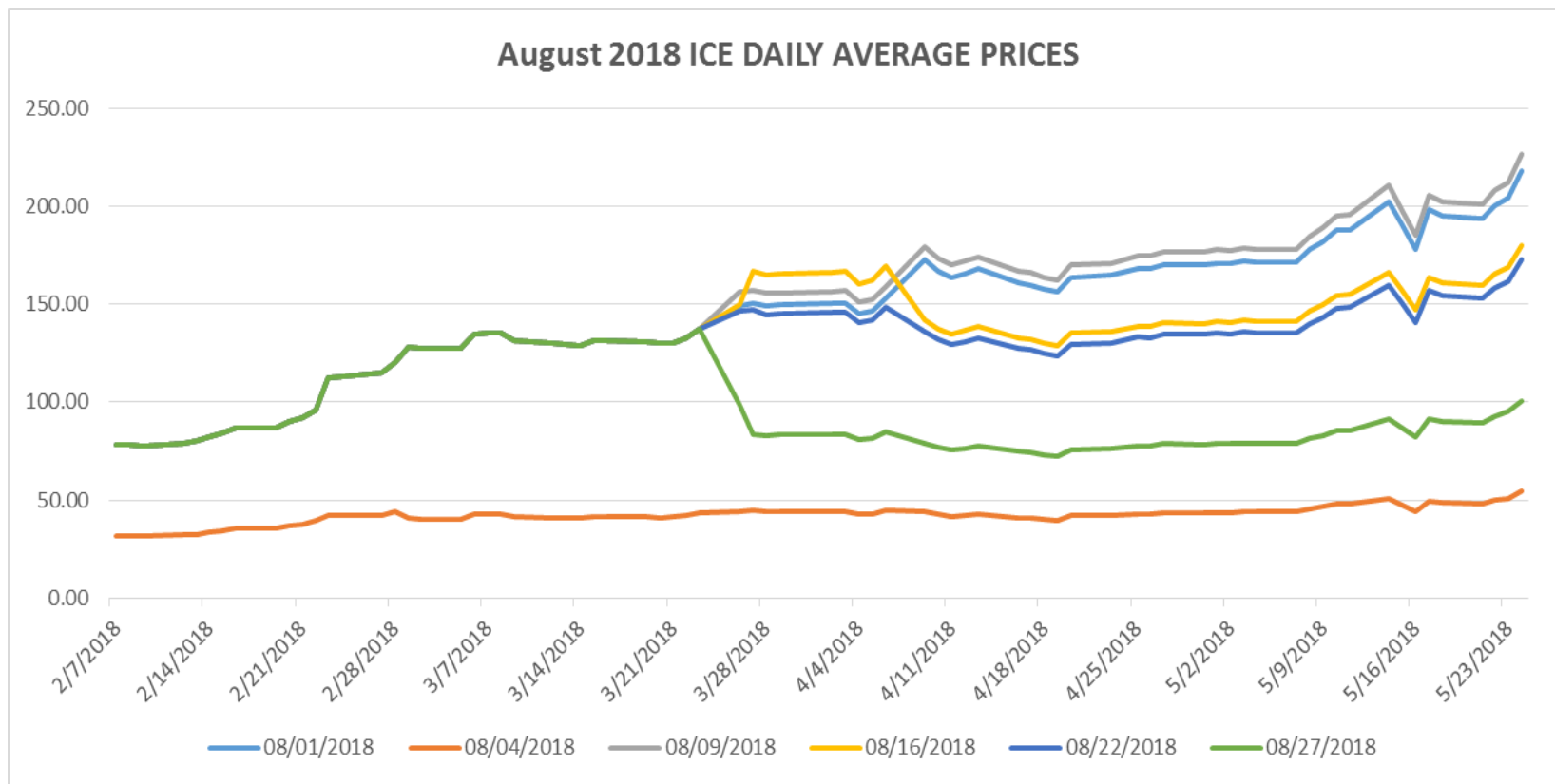
Impact of Forward ERCOT Prices

Comparison of ICE forward curves – March 2018 - May 2018



Impact of Forward ERCOT Prices

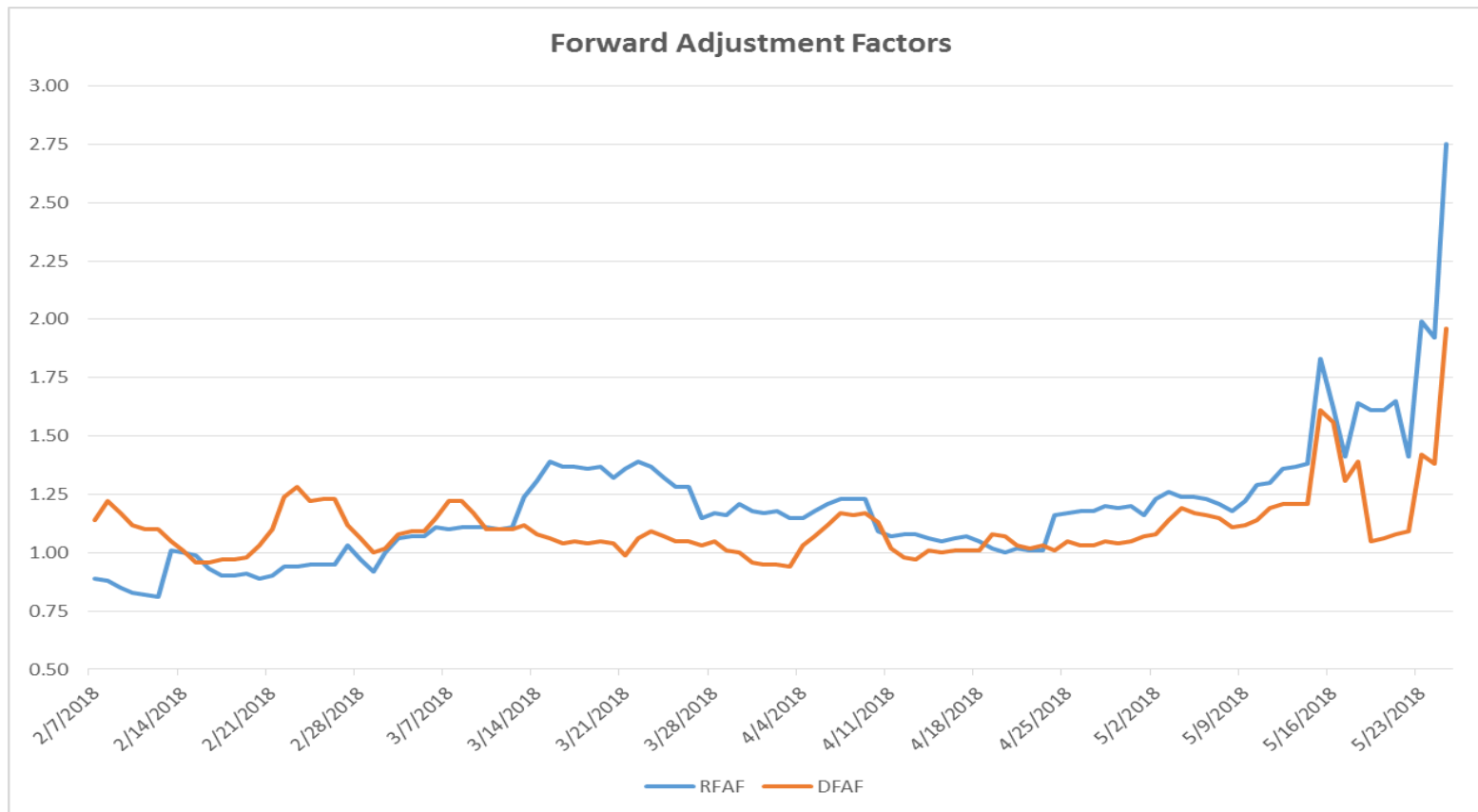
August ICE forward price evolution for weekdays and weekends.



Note August 4 (orange line) is weekend; other days are weekdays.

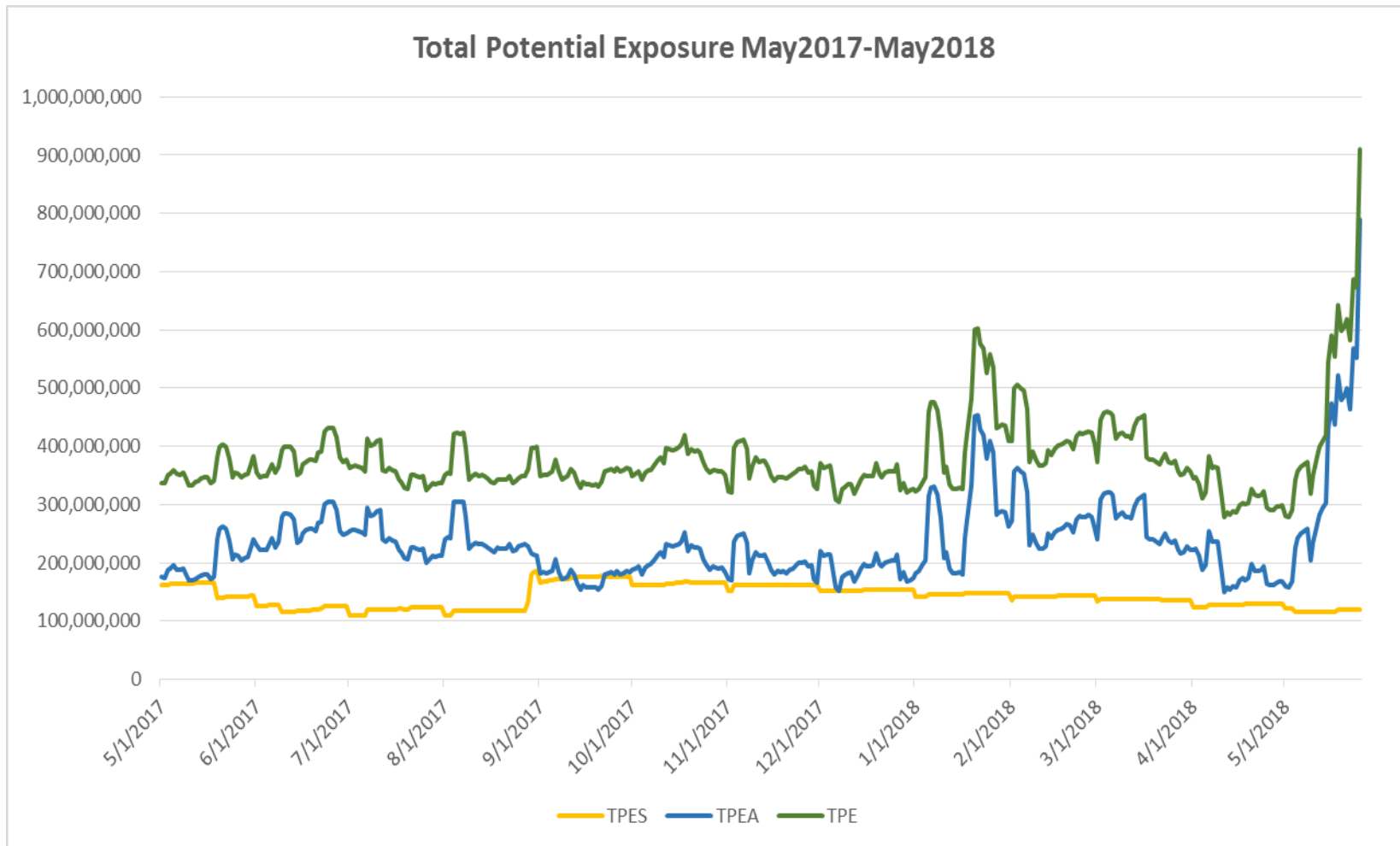
Impact of Forward ERCOT Prices

Forward Adjustment Factors



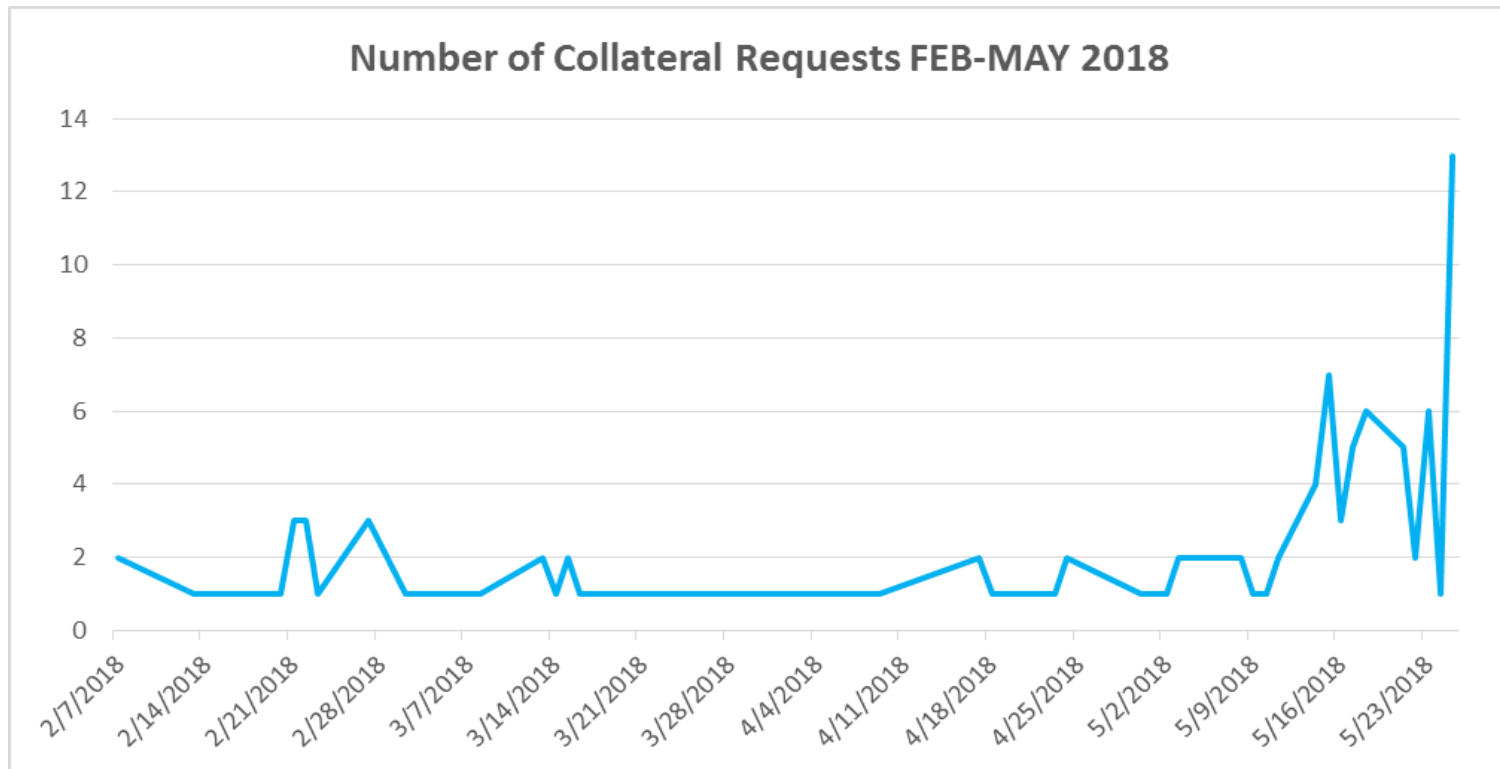
Forward adjustment factors are calculated as the ratio of 21 days forward ICE prices to 14 days Real-Time or 7 days Day-Ahead historic prices.

Impact of Forward ERCOT Prices



Impact of Forward ERCOT Prices

Collateral calls



Letter of Credit Issuer Limits

- Protocol Section 16.11.2, Requirements for Setting a Counter-Party's Unsecured Credit Limit, incorporates letter of credit (LC) issuer limits determined by the long-term issuer rating and the Tangible Net Worth of the Issuer.
- LC issuer limits are determined based on the issuing bank's credit rating and tangible net worth, with an overall cap of \$750m.
- To date there have been two issuer limit breaches, both in May 2018. For four months ERCOT can accept amendments to existing letters of credit, but no new letters of credit, from these issuers. After four months ERCOT can accept neither new letters of credit nor amendments to existing letters of credit from the issuer.
- ERCOT has requested that Counter-Parties be aware of the risk of increasing credit requirements and constraints on letter of credit issuers, and maintain appropriate collateral accordingly.

Letter of Credit Issuer Limits

Detailed statistics

Letter of Credit Concentration Limits (\$ millions)

LC Issuer	Computed Issuer Limit	LCs Outstanding as of May 29, 2018	Excess Capacity as of May 29, 2018	% Current Excess / Limit
Bank of America NA	750.00	149.90	600.10	80%
Bank of Nova Scotia	297.29	87.55	209.74	71%
Bank of Tokyo-Mitsubishi UFJ, Ltd. New York Branch	717.36	200.22	517.14	72%
Barclays Bank PLC	556.31	116.00	440.31	79%
BNP Paribas	735.85	86.00	649.85	88%
BOKF NA(FI)	17.47	0.20	17.27	99%
Canadian Imperial Bank	148.20	39.46	108.74	73%
Citibank NA	750.00	28.00	722.00	96%
CoBank ACB	72.88	35.00	37.88	52%
Comerica Bank	50.96	2.20	48.76	96%
Cooperatieve Rabobank U.A.	385.04	0.20	384.84	100%
Credit Agricole Corporate & Investment Bank SA	154.42	0.00	154.42	100%
Credit Suisse AG	268.73	35.60	233.12	87%
DNB Bank ASA	162.15	150.00	12.15	7%
KeyBank National Association	86.93	15.00	71.93	83%
Lloyds Bank PLC	472.13	99.80	372.33	79%
Mizuho Corporate Bank Ltd.	462.01	294.55	167.46	36%
Morgan Stanley Bank, N.A.	121.03	205.50	-84.47	-70%
MUFG Union Bank N.A.	100.15	8.00	92.15	92%
Natixis	122.54	182.30	-59.77	-49%
PNC Bank NA	211.59	41.50	170.09	80%
Royal Bank of Canada	384.54	0.00	384.54	100%
Societe Generale	440.61	97.00	343.61	78%
Sumitomo Mitsui Banking Corporation.	516.72	0.50	516.22	100%
Toronto-Dominion Bank, The	365.34	10.00	355.34	97%
Wells Fargo	750.00	47.80	702.20	94%
		1932.27		

Mass Transition Drill

Commencing May 2, 2018, ERCOT held a drill with Market Participants and PUCT staff to test Mass Transition systems and processes including:

- Counter-Party collateral default and breach (internal communications)
- Mass Transition initiation upon breach (communications with TDSPs, POLRs and PUCT staff)
- Mass Transition processing in a test environment (selected TDSPs and POLRs)
- Daily update calls (TDSPs, POLRs and PUCT staff)

Mass Transition Drill - Process Improvements

- Standardization of Market Notices to enhance timeliness of communications
- Use of calendar invitations to better ensure communication with key contacts
- Potential RMGRRs and/or NPRRs to reduce the time required to execute a Mass Transition
- Potential RMGRRs and/or NRRRs to clarify required market communications in the event of a Mass Transition

ERCOT expects to hold additional Mass Transition drills in the future with additional Market Participants.

ERCOT Credit Overview

Questions