

Proposed Changes to the FTR Undiversified Credit Requirement

Credit Subcommittee
August 19, 2016

- The current PJM FTR credit requirement has two components:
 - Underlying credit requirement
 - Based on difference between price and historical value
 - The primary requirement for most FTR portfolios
 - Undiversified adder
 - Based solely on total portfolio price each
 - Not calculated for individual FTRs
 - Targets counterflow tail risk
 - Applied as part of FTR Auction clearing process
 - Only applies to some portfolios

- Underlying FTR Credit Requirement
 - Calculated separately for every month within every account
 - Monthly requirement is the sum of individual FTR requirements for that month
 - Annual FTRs are split into individual months for the credit calculation
 - Netting allowed only for cleared FTRs
 - Negative requirements for individual bid FTRs are ignored
 - Each individual requirement is the FTR's price – adjusted historical value
 - Positive historical values decreased 10% (increases credit requirement)
 - Negative historical values increased 10% (increases credit requirement)
 - Individual months can have positive or negative aggregate requirements
 - Positive month values are added to create the total credit requirement

- Undiversified Adder
 - Calculated separately for every month within every account
 - Added to underlying credit requirement for each month
 - Based solely on cleared price
 - Cannot be applied until market is in process of clearing
 - Net negative cleared portfolio-month price causes adder to be applied
 - Total month credit requirement may still be negative if underlying is sufficiently negative
 - Total credit requirement is recalculated and one-day collateral call issued if needed
 - Can cause auction delays and credit uncertainty for Participants

- In support of a Problem Statement and Issue Charge, PJM has been analyzing alternatives to the current FTR Undiversified credit adder
- Objectives for a viable alternative include:
 - Same or better exposure coverage
 - Similar or lower credit requirement
 - Targeting of counterflow FTR exposure, especially tail risk
 - Low implementation risk
 - No material FTR screening performance degradation
 - Elimination of auction clearing delays
 - Elimination of member credit uncertainty from FTR Undiversified collateral calls

- Four types of changes are included in the alternatives being considered
 - Same undiversified adder construct but with smaller factor
 - Establish a minimum per-MWH credit requirement for each account-month
 - Increase existing underlying historical adjustment for individual counterflow FTRs
 - Increase all positive individual underlying FTR requirements
 - Combinations of above
- Ten alternatives incorporating the above methodologies or combinations thereof were presented at the July 27, 2016 Credit Subcommittee meeting
 - PJM has provided a tentative evaluation of each according to the objectives

FTR Undiversified Credit Requirement Alternatives

	 1	 2	 3	 4	 5	 6	 7	 8	 9	 10
	1X Undiv Adder	1¢ Min	2¢ Min	3¢ Min	15% Hist. Cflow	15% Hist. Cflow & 1¢ Min	1.1 * Pos. Credit Req.	1.1 * Pos. Credit Req. & 1¢ Min	20% Hist. Cflow	20% Hist. Cflow & 1¢ Min
Same or Better Exposure Coverage	X	X	✓	✓	✓	✓	✓	✓	✓	✓
% Coverage compared to current	(4%)	(2%)	1%	4%	1%	4%	5%	8%	7%	9%
Similar or Lower Credit Requirement	✓	✓	✓	-	✓	-	✓	X	X	X
% Requirement compared to current	(16%)	(12%)	(4%)	4%	(2%)	3%	1%	7%	19%	24%
Targets Counterflow Exposure, Especially Tail Risk	✓	X	X	X	✓	✓	X	X	✓	✓
Low Implementaion Risk	✓	-	-	-	✓	-	-	-	✓	-
No Material FTR Screening Performance Degredation	✓	-	-	-	✓	-	✓	-	✓	-
Elimination of Auction Clearing Delays	X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Elimination of Member Credit Uncertainty from FTR Undiversified Collateral Calls	X	✓	✓	✓	✓	✓	✓	✓	✓	✓

- PJM believes alternatives 5 and 6 achieve the most overall success in addressing all of the financial and non-financial objectives
- Although some other alternatives showed slightly better financial characteristics over the period analyzed, each fails to meet one or more of the non-financial objectives
- PJM plans to open a survey to assess stakeholder preference among the alternatives
 - From noon August 19, 2016 through noon on Friday, August 26, 2016
- PJM will present results of the survey at the September MIC as a first read
- A Credit Subcommittee meeting is scheduled for September 13, 2016 to discuss and endorse a single alternative

- Proposed implementation
 - Effective prior to 2017-2018 annual auction
 - After annual update of historical values for Long-term FTRs (LTFTRs)
 - Annual update may involve collateral calls
 - Long-term FTR (LTFTR) credit requirements recalculated with new requirements
 - June 1, 2017 – May 31, 2020
 - FTR credit requirements frozen for existing April and May 2017 FTRs
 - Additional FTRs acquired in the May 2017 monthly auction would be subject to new requirements

- Proposed transition
 - No collateral calls initially issued for accounts with credit shortfall (from existing position) after recalculation
 - Collateral calls may still be issued after annual LTFTR historical value adjustment
 - Transitional FTR Credit Adjustment (“TFCA”) applied to each “short” account
 - Causes zero balance to be reported by eCredit and utilized by FTR Center
 - TFCA reduced any time credit available (with TFCA) is greater than credit requirement
 - FTR monthly roll-off
 - Reductions due to transactions
 - Additional credit applied to account
 - Until account shortfall is eliminated, Participant can only enter FTR transactions that reduce credit requirements
 - Other transactions may be done in separate accounts with their own credit

In order to implement changes for the 2017-2018 annual FTR auction, the timetable below would need to be followed

	Introduction	Endorse/ Approve
Credit Subcommittee (CS)	Jul-Aug 2016	Sep 2016
Market Implementation Committee (MIC)	Sep 14, 2016	Oct 5, 2016
Markets and Reliability Committee (MRC)	Sep 29, 2016	Oct 27, 2016
Members Committee (MC)		Nov 17, 2016
FERC Filing – FERC Approval	Dec 1, 2016	Feb 1, 2017

Appendix

Alternatives (all also include elimination of current 2x-3x Undiversified Adder)

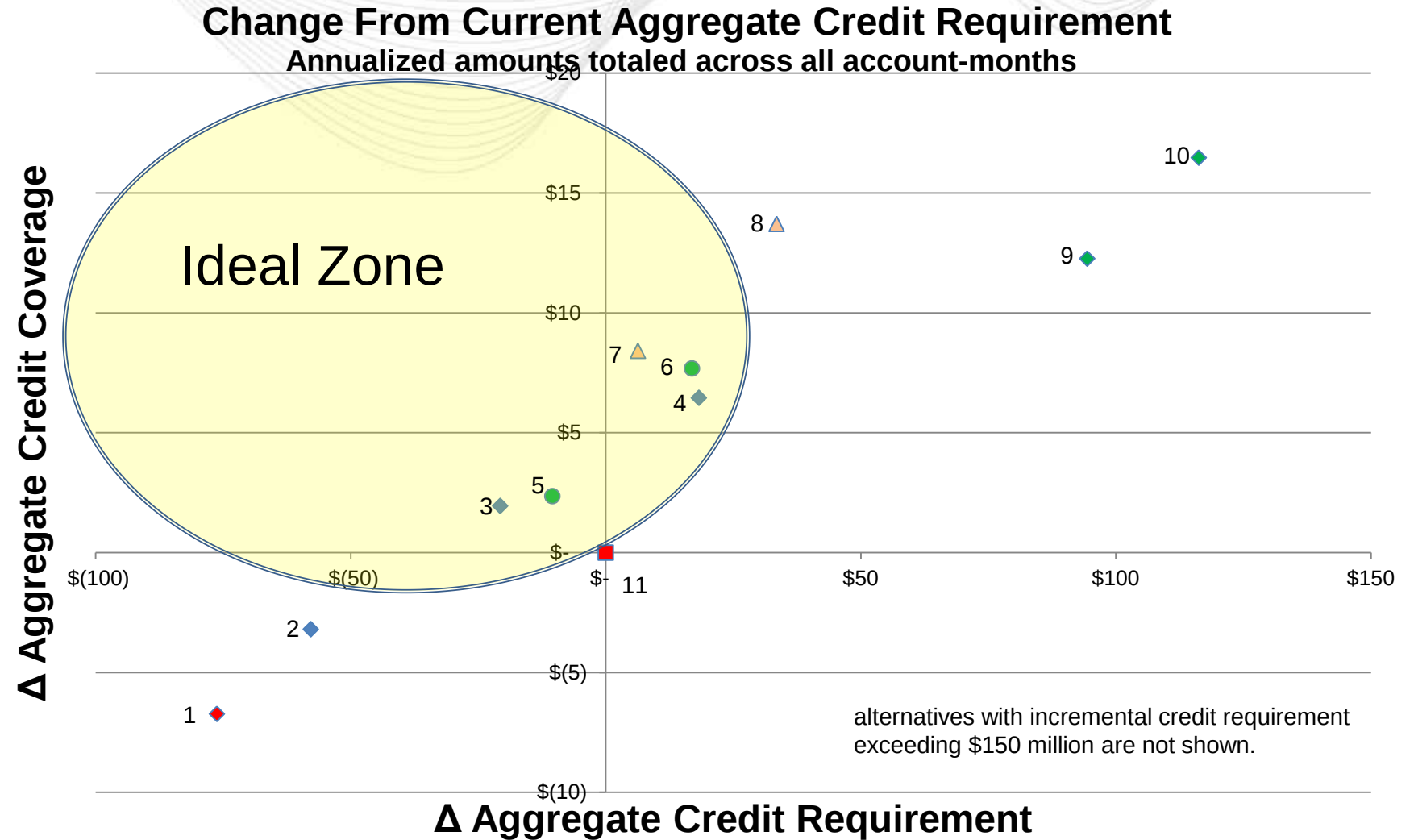
1. 1X Undiversified Adder
 - Same as current 2X-3X Undiversified adder but reduced to 1X
2. 1¢/MWH Minimum
 - Per-MWH minimum requirement (not an adder)
 - Applied at total portfolio-month level
3. 2¢/MWH Minimum
 - Same design as above alternative, but calculated using 2¢/MWH
4. 3¢/MWH Minimum
 - Same design as above alternative, but calculated using 3¢/MWH)
5. 15% Historical Counterflow Adjustment
 - Increase from 10% to 15% the adjustment factor for negative historical values in the underlying calculation for each FTR

Alternatives (cont'd)

6. 15% Historical Counterflow Adjustment & 1¢/MWH Minimum
 - Same as above alternative, but with 1¢/MWH minimum also applied at total portfolio-month level
7. 1.1 times Positive Credit Requirement
 - All individual positive underlying FTR credit requirements increased 10%
8. 1.1 times Positive Credit Requirement & 1¢/MWH Minimum
 - Same as above but with 1¢ minimum also applied at account-month level
9. 20% Historical Counterflow Adjustment
 - Same as 15% Historical Counterflow Adjustment, except adjustment is 20%
10. 20% Historical Counterflow Adjustment & 1¢/MWH Minimum
 - Same as above alternative, but with 1¢/MWH minimum also applied at total portfolio-month level

Change from Current Credit Requirement – Portion Enlarged

- alternative
- 1 ◆ 1X Undiversified Adder
 - 2 ◆ 1¢ Min
 - 3 ◆ 2¢ Min
 - 4 ◆ 3¢ Min
 - 5 ● 15% Hist. Cflow
 - 6 ● 15% Hist. Cflow & 1¢ Min
 - 7 ▲ 1.1 * Pos. Credit Req.
 - 8 ▲ 1.1 * Pos. Credit Req. & 1¢ Min
 - 9 ◆ 20% Hist. Cflow
 - 10 ◆ 20% Hist. Cflow & 1¢ Min
 - 11 ■ Total Current Requirements



Alternatives	Change in Aggregate Requirements and Coverage					
	Prevailing Flow		Counterflow*		Total	
	Req't	Coverage	Req't	Coverage	Req't	Coverage
1  1X Undiversified Adder	(7%)	0%	(53%)	(72%)	(16%)	(4%)
2  1¢ Min	(1%)	1%	(57%)	(58%)	(12%)	(2%)
3  2¢ Min	6%	2%	(48%)	(23%)	(4%)	1%
4  3¢ Min	14%	3%	(38%)	8%	4%	4%
5  15% Hist. Cflow	7%	3%	(42%)	(24%)	(2%)	1%
6  15% Hist. Cflow & 1¢ Min	13%	4%	(35%)	11%	3%	4%
7  1.1 * Pos. Credit Req.	12%	6%	(45%)	(9%)	1%	5%
8  1.1 * Pos. Credit Req. & 1¢ Min	18%	7%	(38%)	27%	7%	8%
9  20% Hist. Cflow	27%	5%	(13%)	48%	19%	7%
10  20% Hist. Cflow & 1¢ Min	32%	6%	(8%)	73%	24%	9%

* Counterflow defined based on target allocations