FTR Undiversified Credit Requirement

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- The current FTR credit construct has two parts
  - An underlying requirement calculated based on price and adjusted historical value of individual FTRs
  - A portfolio-based “undiversified credit adder” applied to net counterflow portfolios during the FTR auction clearing process
- Implementation of the undiversified adder during clearing introduces clearing delays and credit uncertainty for members
- Stakeholders initiated an issue charge to develop an alternative to the undiversified credit adder in order to reduce clearing delays and credit uncertainty

- One alternative design was forwarded from the Credit Subcommittee
  - Eliminates the undiversified credit adder
  - Increases the historical adjustment factor in the underlying credit calculation from 10% to 25% to increase credit requirements for historically counterflow paths
  - No change to credit requirements for historically prevailing flow paths
  - Implementation and transition plans as outlined in Appendix
  - Credit and exposure alignment slightly improved over current construct
    - 5% decrease in aggregate credit requirements in sample period
    - 1% increase in exposure coverage
  - Supported by 72% of responding members in both the Credit Subcommittee and the Market Implementation Committee

- Additional measures beyond the undiversified credit adder have been implemented since 2007 that have also increased FTR protection
  - Monthly calculation of credit requirements that better captures seasonality
  - Historical value adjustment that increases credit requirement
  - Minimum capital requirements (or $500,000 non-trading collateral alternative)
  - Risk management and minimum participation requirements
  - Disallowance of unsecured credit for FTRs
- None of these measures is being eliminated in the alternative proposal

Comparison of Current and Alternative

- Both current and alternative constructs over-collateralized some portfolios and under-collateralized others in the 26-month test period from Jan 2014 through Feb 2016
  - It is not possible to estimate to what degree, if at all, FTR bidding behavior during that period was impacted by the existence of the current undiversified credit adder
- In a stress test looking at the $52 million default from two portfolios in 2007-2008
  - The current undiversified adder would have covered 100% of the exposure presented by the two portfolios without default allocation assessment to the members
  - If the two FTR portfolios were acquired as cleared portfolios even with higher bid credit requirements from the proposed FTR undiversified alternative, the cleared requirements from the proposed alternative would have covered approximately 16% of the actual losses incurred by those 2007-2008 portfolios

Summary Impact Analysis

Analysis period – January 2014 through February 2016

Average Total Members' FTR Credit Requirement	(est.)	$845 million
Estimated collateral reduction from undiversified adder alternative	4.6%	$39 million
Potential cost savings to FTR net counterflow portfolio holders* from collateral reduction at example 5% and 10% cost of capital rates	5%	$2 million
	10%	$4 million

* All savings accrue only to members with net counterflow portfolios.

Note: It is not possibly to quantify the effect of the existing undiversified credit adder on member bidding that resulted in acquisition of member portfolios during this time.

Stress Test – Two 2007-2008 portfolios

Actual 2007-2008 FTR net counterflow portfolio losses	$52 million	
Current cleared credit requirement (100% of exposure)	$52 million	
Alternate cleared credit requirement (16% of exposure)		$8 million
Remaining cost to members* from uncovered losses	---	$44 million

* All members share in losses resulting in default allocation assessments – 10% allocated per capita across all members plus 90% allocated to members based on each member's gross dollar billings for a 90-day period approximate to the date of the default.

Summary Points

- Members bear both the risk of default allocation assessments and the capital costs of posting collateral to fulfill their FTR credit requirements, so it is appropriate for members to provide feedback on their risk appetite when considering changes to FTR credit requirements.
- PJM also believes it is important for PJM to provide its perspective to members as they consider potential credit policy changes.
- Proposed revisions would eliminate occasional clearing issues and align slightly better with exposure from recent member portfolios.
- PJM believes it is important for members to consider the reputational risk to PJM's markets from potential low frequency, high impact defaults when considering potential revisions to the FTR credit requirements.

Potential Endorsement & Approval Timeline

Credit Subcommittee endorsement	November 4, 2016
Market Implementation Committee first read	September 2016
Market Implementation Committee update	November 2016
Markets & Reliability Committee first read	November 2016
Market Implementation Committee endorsement	December 2016
Markets & Reliability Committee endorsement	December 2016
Members Committee endorsement	January 2017
FERC approval	April 1, 2017
Implementation	~April 7, 2017

FTR Undiversified Credit Requirement Alternative:

Appendix – Implementation and Transition Plan Summaries

- Implementation plan, if alternate proposal endorsed by Members Committee:
  - Effective in April 2017 for the 2017-2018 annual FTR auction
    - After annual credit recalculation for Long-term FTRs
  - 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

- Transition plan, if alternate proposal endorsed by Members Committee:
  - No collateral calls initially issued for accounts with credit shortfall from existing FTRs after the initial recalculation
    - Transitional FTR Credit Adjustment (“TFCA”) credited to each “short” account
    - TFCA reduced any time credit available increases or credit requirement decreases
  - Until account shortfall is eliminated (TFCA is zero), Participants can only enter FTR transactions that reduce credit requirements in a given account
    - Other transactions may be done in separate accounts with separate credit