



Initial Margin PJM Position Paper

Bridgid Cummings
Alex Eydeland
Financial Risk Mitigation Senior Task Force
November 7, 2019

- IM is a good-faith deposit, posted by a Market Participant as collateral to protect against the financial consequences of default. It reflects potential losses that would be incurred by the PJM members in case of default, calculated to a high degree of statistical likelihood, across the participant's entire portfolio.
- IM must cover the period between the time when the position was incurred or variation margin (VM) last levied, and the time when the position could be liquidated or taken to final settlement (whichever is sooner) in the event of default. This time period is called the Margin Period of Risk (MPOR), and is also known as "liquidation period".
- IM is computed at the time of every auction and, if necessary, more frequently.

- Three main components
 - Path-specific:
 - Cleared price minus historical reference value
 - Cleared price minus adjusted historical reference value (includes adjustments for RTEP upgrades)
 - Undiversified adder
 - 10¢ Per-MWh minimum

- HS IM is computed after the construction of distributions of potential movements of all forward contract prices over relatively short period of time. These distributions are constructed using historical price movements.
- The method uses historical data to determine the distribution around the forward prices and *not* the forward prices themselves. The forward prices, which at any auction reflect participants' expectations of future settled FTR prices, are determined at the auction time and, ideally, incorporate all information participants have about the future, including topology changes, outages, fuel prices, etc.
- The concepts underlying the approach are common and preferred by regulators and market governing bodies. See, for example, Standard Initial Margin Model for Non-cleared Derivatives, ISDA, 2013

- HS methodology for computing IM was applied to Market Participant portfolios as of June 30, 2019
- Used MPOR of 2 auction periods
- Similar to today's approach PJM considered:
 - “Realized” profits or losses
 - ARR credits
- Initial margin for FTR Options was set equal to the cost of purchase
- Results are aligned with expectations

Long-term Portfolios of 20/23 Planning Periods - Change in IM:

Current IM (million)	Sample Size	Average IM Increase: Current IM to New IM (%)
< 1	63	285
1 – 3	28	145
3 – 10	17	116
≥ 10	10	32

Monthly Portfolios of 19/20 Planning Period - Change in IM:

Current IM (million)	Sample Size	Average IM Increase: Current IM to New IM (%)
< .1	634	535
.1 – 1	718	90
1 – 2	131	11
2 – 4	62	-11
≥ 4	9	-44

- Historical Simulation methodology:
 - Enhances the initial margin to be more consistent with industry best practices
 - Is more correlated to market risk than current IM
 - Eliminates the undiversified adder (recommendation A3)
- PJM supports the replacement of current Initial Margin with the Historical Simulation methodology

- Develop Matrix to include how to combine HS Initial Margin with:
 - Variation Margin, also called Mark-to-Auction
 - 10¢/MWh Minimum
 - Monthly vs Portfolio totals
 - Modifications to default timeline for Mark-to-Auction collateral calls (currently a one month lag)