

# Initial Margining of Financial Transmission Rights Confidence Interval Discussion

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September 10, 2021

- The 95% confidence interval is expected to converge to a 5% failure rate over time
- These backtesting results used the standard deviation method for calculating initial margin:

<b>Confidence Interval</b>	<b>Failure Rate</b>	<b>Failure Rate Winter</b>
99%	0.65%	1.00%
97%	0.90%	1.54%
95%	1.21%	2.16%

- Initial Margin (IM): 9X% of portfolio changes under historical price shocks are covered by IM
- **Method “STDDEV”**: when we are not able to compute the percentile due to small sample size, we approximate it with *Const · StdDev(Portfolio distribution)*
- **Method “Percentile”**: compute distribution of portfolio changes and IM as the (100%-9X%)-percentile.
  - Example: for CI=95%, IM corresponds to the 5<sup>th</sup>-percentile

- Changes of shifting from standard deviation to percentile
- Analysis of backtesting data set using September and January auction data

CURRENT			USING SEPTEMBER AUCTION DATA			USING JANUARY AUCTION DATA		
Confidence Interval	Failure Rate*	Failure Rate Winter	Confidence Interval	Failure Rate*	Failure Rate Winter	Confidence Interval	Failure Rate*	Failure Rate Winter
99%	0.65%	1.00%	99%	0.9%	1.7%	99%	0.7%	1.3%
97%	0.90%	1.54%	97%	1.6%	2.8%	97%	2.0%	3.3%
95%	1.21%	2.16%	95%	1.9%	3.3%	95%	4.1%	6.2%

*This shows the trend towards higher failure rates as we move to Method “Percentile”*

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## **Initial Margining of Financial Transmission Rights – Confidence Interval Discussion**



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