



# Initial Margin and FTR Credit Requirements

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- Previously we reviewed initial backtesting results
- Today we will be covering
  - Considerations for FTR Credit Requirements
  - Additional requested information of backtesting results

# Considerations for FTR Credit Requirements



- Path Specific Requirement
  - Replace with Initial Margin Methodology, using a Liquidation Period=2
  - Captures exposure of portfolio using best practices
- Undiversified Adder
  - Remove from the calculation
  - Not correlated to risk
- 10¢ Per-MWh
  - Continue to consider as part of calculation, if works with summation methodology
  - Can serve to maintain a minimum requirement

- ARR Credits
  - Used as an offset to FTR Credit Requirements
  - Assumed to be guaranteed revenue
  - May result in a net zero credit requirement

Period	Monthly Requirement	ARR Credits	Net of ARR Credits and Monthly Requirement	Final Monthly Requirement
SEP 2020	\$464,200	\$637,106	-\$172,906	\$0
OCT 2020	\$639,571	\$657,232	-\$17,661	\$0
....	...	...	...	...
APR 2020	\$409,637	\$636,859	-\$227,222	\$0
MAY 2020	\$711,428	\$658,397	\$53,031	\$53,031

- Final settlement of ARRs are reassigned on a daily basis
  - Based on a proportional basis within a zone, as load shifts from one LSE to another within a transmission zone (PJM Manual 6, Section 4.6)
- At the time of default, load served by the defaulting party is shifted to the EDC pursuant to the provisions of the Tariff, section 7.3 and OA, section 15.1.5.

- Given this load shift, the ARRs are also reassigned
- After the default, these ARR revenues will no longer be available in the defaulting party's invoice to offset the potential charges of unwinding the portfolio
- Considering ARR credits to be available at the time of default is counter to the settlement process following a default

Should ARR credits be considered as part of an offset to the collateral requirements?



- Realized Gains and Losses
  - The gains or losses are a result of selling FTR(s) in an auction
    - Does not include bilateral transactions
  - At time of settlement, the gains will be considered a payment and the losses will be a charge to the participant

Recognizing these in the collateral requirements is in line with the actual settlement of these types of FTR transactions

- Example:
  - Sale of entire portfolio:

Path	MW Quantity	Original Purchase Price	Sale Price	Realized Gain/Loss(-)
A-B	1	\$100	\$150	\$50
C-D	0.2	\$75	\$50	-\$5
<b>Total</b>				<b>\$45</b>

- **Mark to Auction**
  - The calculation will remain as the difference between the original cleared price and most recent auction price multiplied by the MW quantity
  - However, it will be updated to determine MTA based on remaining open positions (i.e. will no longer include realized gains and losses)
- **Example (sale of entire portfolio using today’s calculation):**

Path	Trade Type	MW Quantity	Original Cleared Price	Most Recent Auction Clearing Price	Mark to Auction
A-B	Buy	1	\$100	\$120	\$20
C-D	Buy	0.2	\$75	\$60	-\$3
A-B	Sell	1	\$150	\$120	\$30
C-D	Sell	0.2	\$50	\$60	-\$2
<b>Total</b>					<b>\$45</b>

- Today, the MTA is only utilized if the most recent auction prices are indicating a portfolio experiencing a loss, the amount of which is added to the base margin

Net MTA appropriately on both sides, in line with best practices

- Finalize approach to calculating a Total Credit Requirement for FTR positions
- Quantify impacts to Member Portfolios
- Finalize approach to Bid Collateral

# Additional Requested Information of Backtesting Results

What happens during transition from LT YR1 to the  
Monthly strip?  
Will the IM increase substantially?

- We set the following test for all portfolios:
  - Determine the IM of the LT YR1 contract at the last auction before it becomes the strip of monthly contracts -- December auction (i.e., Dec 2018)
  - Determine the IM of the Monthly strip in the following April (i.e. Apr 2019).
  - Compute the absolute and relative differences between the IM for years 2018, 2019, 2020:

$$d = IM_{LT\_YR1}^{Dec} - IM_{Monthly}^{April}$$

$$r = \frac{IM_{LT\_YR1}^{Dec} - IM_{Monthly}^{April}}{IM_{Monthly}^{April}}$$

- Mean of relative differences: 1.8%, indicating no systemic increase in IM during transition from LT YR1 to monthly strip



# Additional Data Points for Average Loss Above the IM in the Event of a Failure

Utilize a blended approach to aggregate the Monthly IM values into the BOPP IM

$$IM_{Balance\ of\ PP} = .1 \cdot \sum IM_{Monthly} + .9 \cdot \sqrt{\sum IM_{Monthly}^2}$$

- This “blending” formula is designed to bring the backtesting results into the desired range.
- The choice of coefficients is driven by the goal to have as small a perturbation of square root sum of squares formula (case of non-correlated moves) as possible, but not smaller.

Liquidation Period	Failure Rate	Sample Size*
To Settlement	1.24%	11,693
1	0.74%	16,531
2	0.65%	15,692

\*Sample sizes vary because of availability to calculate the price moves. For example, the “to settlement” price moves cannot be calculated for 2021 and beyond because those settlement values do not exist yet.

## In case of a failure, what is the average loss above the IM?

- The expected shortfall indicates the percentage difference between the IM and the loss above the IM when there was a failure
- Results for **Liquidation Period of 2:**

IM Range (million USD)	Shortfall (% of IM)	Average Shortfall (\$ in MM)	Max Shortfall (\$in MM)	Failure Rate (%)	Count of Observations
0-1	52	0.06	0.79	0.48	76
1-3	43	0.76	2.32	0.06	10
3-10	13	0.63	1.48	0.06	9
10 and above	37	7.19	22.29	0.04	7

## In case of a failure, what is the average loss above the IM?

- The expected shortfall indicates the percentage difference between the IM and the loss above the IM when there was a failure
- Results for **Liquidation Period of 1:**

IM Range (million USD)	Shortfall (% of IM)	Average Shortfall (\$ in MM)	Max Shortfall (\$in MM)	Failure Rate (%)	Count of Observations
0-1	49	0.08	0.63	0.55	90
1-3	26	0.37	1.14	0.11	18
3-10	49	3.51	20.22	0.05	8
10 and above	40	5.92	10.88	0.03	5

## In case of a failure, what is the average loss above the IM?

- The expected shortfall indicates the percentage difference between the IM and the loss above the IM when there was a failure
- Results for **Liquidation Period of To Settlement:**

IM Range (million USD)	Shortfall (% of IM)	Average Shortfall (\$ in MM)	Max Shortfall (\$ in MM)	Failure Rate (%)	Count of Observations
0-1	150	0.08	0.63	0.75	88
1-3	23	0.44	2.50	0.2	23
3-10	22	0.93	3.50	0.17	20
10 and above	36	10.34	34.08	0.12	14