CRR Future Credit Exposure Improvements

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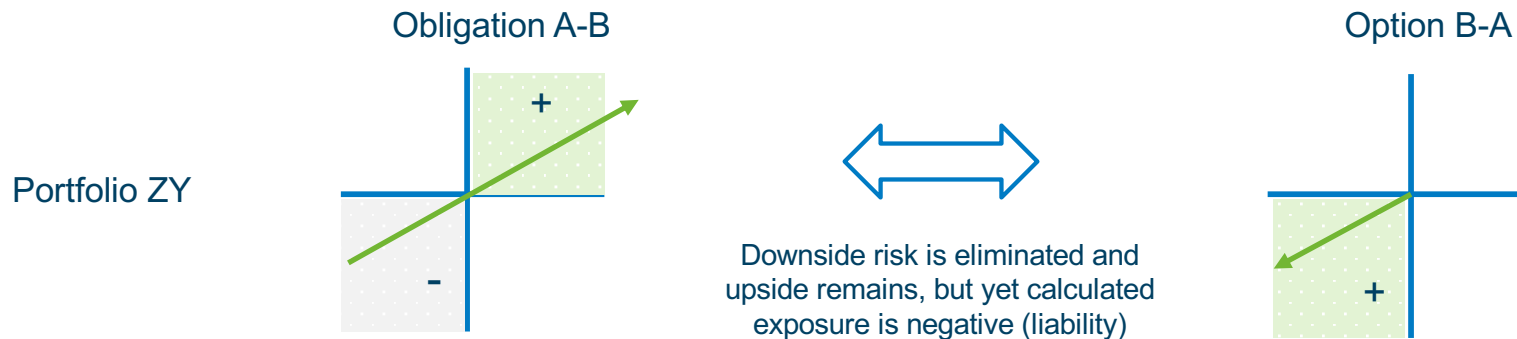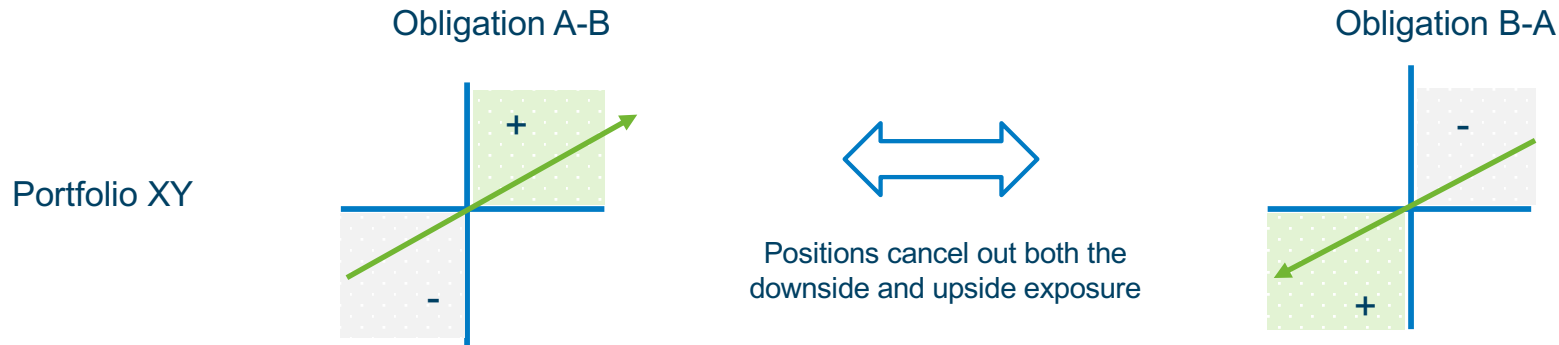
Agenda

- **Treatment of CRR Options in the Future Credit Exposure calculation**

- **Including the impact of time diversification in the Future Credit Exposure calculation**

The treatment of CRR Options and CRR Obligations within forward exposure calculation are not equitable

Forward Exposure Example
-Illustrative settlement of opposite path positions-

Portfolio XY

Obligation A-B ⟷ Obligation B-A

Positions cancel out both the downside and upside exposure

Portfolio ZY

Obligation A-B ⟷ Option B-A

Downside risk is eliminated and upside remains, but yet calculated exposure is negative (liability)

Both portfolios have no downside risk, however Portfolio ZY is treated as a liability despite being exposed to positive settlement only. This inequality is due to option and obligation exposures being aggregated together <u>after</u> the worst case is determined (i.e. each have a separate Portfolio Weighted Adder)

DC Energy's recommendation would bring symmetry to the credit rules and better reflect actual risk

DC Energy's Recommendation

- **Our recommendation is to calculate one Portfolio Weighted Adder (PWA) calculation where options and obligations are considered together**

- **This modification fosters symmetry in the PWA calculation by recognizing the impact of options and obligations over the entire portfolio of CRRs before determining its worst case (i.e. P100)**

- **The change would reflect the risk reducing value of the option product and the actual risk of a portfolio**

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Considering Risk Over Time

- **Today the historical worst case month is determined at the portfolio level and is aggregated linearly across months**
  — This assumes the probability of the worst case occurring for a single month is the same as it is for all months

- **Portfolios spanning different durations do not exhibit the same risk profile**
  — The risk of worst case congestion occurring each month for up to 36 months is lower than it is for any given month
  — Drivers of congestion are generally uncorrelated between seasons
    — Outage driven congestion is concentrated in the shoulder seasons
    — Load driven congestion is concentrated in the peak season (e.g. winter LRGV congestion)

DC Energy recommendation is to include the risk reduction impact of time diversification in the CRR exposure calculations

DC Energy's Reccommendation

- **Include the value of time diversification in the Future Credit Exposure by aggregating exposure for each season in quadrature (i.e. square root of sum of squares)* instead aggregating linearly across months**
  - This method accounts for the reduced probability of the worst case occurring for every month in a portfolio

Month	~Net Awarded PTPs*(-Min(0, PWA, PWACP)
Mth 1	$60,000
Mth 2	$150,000
Mth 3	$60,000
Mth 4	$150,000
Mth 5	$55,000
Mth 6	$150,000
Mth 7	$60,000
Mth 8	$45,00
Mth 9	$30,000
Mth 10	$60,000
Mth 11	$150,000
Mth 12	$30,000
	Status quo = 1M$ DC Energy proposal =.524M$

* $\delta Q = \sqrt{(\delta a)^2 + (\delta b)^2 + \cdots + (\delta c)^2 + (\delta x)^2 + (\delta y)^2 + \cdots + (\delta z)^2}.$