ERCOT CRR Deration Settlement Process

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CRR Deration Process

- **The deration settlement mechanism was introduced in order to deter inefficient market activity**
  - Addresses the ability for related positions to influence outcomes at the expense of market efficiency
- **Applies to CRR Options with a Resource Node as a sink or source and CRR Obligations with a positive value and Resource Node as a sink or source**
- **The deration price for a CRR path is determined at the constraint level**
  - It is product of the Deration Factor (DRF), Day-Ahead Shadow Price, and the CRR's positive Day-Ahead Shift Factor impacts and is performed for each constraint
  - DRF= MW oversold / prevailing direction flow on the constraint (see appendix)
- **The derated amount is applied to CRR payout**
- **Hedge Values can keep you whole**
  - Designed to ensure target payments for 'hedge' activity
  - Hedge Value dependent on resource type at source and sink and the day-ahead SPP

CRR deration introduces market inefficiencies that can be mitigated or avoided with more targeted approaches

Enhancement Options

- **Eliminate the derate process**
  - The current process is clearly inefficient, as today it can impact entities that hold open CRR positions and hold no Day-Ahead Market positions
  - More equitable: CRR holders do not cause unmodeled or forced outages, but yet pay in full for the value of the CRR that is forfeited through the deration process
  - Moves toward a more fully funded CRR product as target payment could be satisfied by available funds in the CRR Balancing Account

- **Keep the the derate process and refund CRRs**
  - Refund the portion of the CRR purchase price associated with the derate
  - More equitable: CRR holders do not cause unmodeled or forced outages, but yet pay in full for the value of the CRR that is forfeited through the deration process

- **Replace the derate process**
  - Other ISOs (e.g. PJM and CAISO) utilize more targeted settlement mechanisms, which are designed to identify and resolve actual occurrences of the undesired activity involving related positions
  - Preserves the intent of the derate methodology without its inefficiencies

Appendix

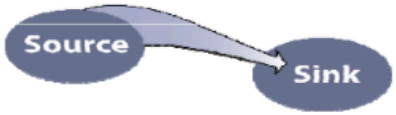
CRR Deration Process

Calculation of Deration Factor

If a Constraint C, has both a positive DASP (Day Ahead Shadow Price) and CRRSFTVIOL:

Calculate Deration Factor per Constraint for each Operating Hour of the Operating Day:

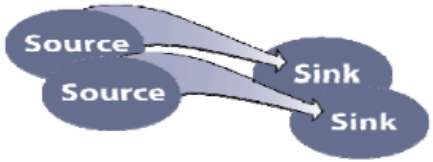
DRF_<C> = CRRSFTVIOL_<C> / CRRPOSTOT_<C>



CRRSFTVIOL
CRR SFT Violated Amount – the MW amount by which the constraint is oversold for the Operating Hour.

Calculate only CRR Total Positive Impact per Constraint for each Operating Hour of the Operating Day:

$$CRRPOSTOT\_<C> = \sum_{SKSP} \sum_{SRSP} \text{Max}(0, DAWASF\_<SRSP>\_<C> - DAWASF\_<SKSP>\_<C>) * PTPSRSKTOT\ <SRSP>\ <SKSP>$$



PTPSRSKTOT
Point to Point Source and Sink Total – the total DAOBL, DAOBLR, OPT, and OPTR for all CRR Owners for a source and sink Settlement Point pair, for the Operating Hour.

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