ERCOT CRR Default Liquidation

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Current CRR Liquidation for Defaults

- Congestion Revenue Rights (CRRs) for the current month are voided and removed from inventory; we also void CRRs for the next month if there isn't enough time to transfer ownership before the month begins

  - No Day-Ahead Market (DAM) settlements for the voided CRRs

- All CRRs for future months are repossessed and offered together as a single portfolio in a "one-time" auction

  - ERCOT accepts positive bids from interested CRR Account Holders as one bid to buy the entire portfolio

    - There is no breakdown of available CRRs into smaller MW amounts, months, Times of Use (TOUs), or CRR type (obligations or options)

  - Highest bidder is awarded the entire portfolio

    - Bidder must also pass a credit validation for the future credit exposure of the portfolio before being awarded ownership of the CRRs

Current CRR Liquidation for Defaults – Continued

- The sell price of the portfolio is applied to the collateral account of the defaulted entity

    - Used to offset the defaulted amount, which lessens the total default amount to be uplifted to the rest of the market

    - If no winning bid, all repossessed CRRs are voided and do not settle in DAM

        - Entire default amount is subject to uplift to the rest of the market

- It's important to note that ERCOT requires payment for CRRs a week after auction results are posted, so there is no concern about the distribution of auction revenue if we have a default

    - The only exception is a default caused by the inability to pay an auction invoice

        - In this case, the current process voids these CRRs; they are not offered to another buyer, and they do not settle in DAM

        - Auction revenue is decreased prior to payouts to Load

Associated ERCOT Market Participant Types

- Counter-Parties (CPs) are responsible for the CRR Account Holder (CRRAH) and Qualified Scheduling Entity (QSE) credit in ERCOT markets
    - CRRAHs only participate in the CRR market
    - QSEs participate in DAM and Real-Time Market (RTM)
        - Load Serving Entities (LSEs) and Resource Entities (REs) must have a designated QSE to participate in DAM and RTM
            - The QSE is responsible for scheduling, telemetry, and settlements on behalf of the LSEs and REs
        - QSEs can also participate in DAM and RTM as a power marketer (without representing generation or load)
- Every CRRAH and QSE must be associated with a CP
    - Each CP is limited to 3 CRRAHs, but there is no limit on the number of associated QSEs

ERCOT Default Uplift Process

- Uplift allocation methodology:
  - Default uplifts are handled the same way regardless of whether the default resulted from CRR, DAM, or RTM activity
  - Use 180-day true-up data for each operating day in the month prior to the month in which the default occurred
    - Prevents a market participant from adjusting market activity to lessen their share of the default uplift
  - The CP's share of the default uplift is determined based on their maximum market activity for the month (more details on the next 2 slides)
  - The default uplift amount is allocated to each CP according to its market activity
    - The default uplift amount is further allocated to CRRAHs or QSEs under that CP according to their pro-rata share of the maximum market activity
      - Necessary because ERCOT only settles with QSEs and CRRAHs
  - The total default uplift is capped at $2.5M for one set of invoices
    - Uplift of more than $2.5M is spread out over multiple invoices issued at least 30 days apart

Maximum MWh Activity Ratio Share (MMARS)

- MMARS is the one market activity for which the CP had the highest MWh for the month prior to the default

- The MMARS "activity" compares true-up data for items such as:
  - Real-Time Adjusted Metered Load (RTAML)
  - Generation output
  - Day-Ahead energy sales and purchases
  - Obligation and option CRRs bought and sold in a CRR auction
  - Point-to-Point (PTP) obligations bought in DAM

- MMARS per CP is calculated as:
  - Numerator: The MWh for the one max activity for a given CP
  - Denominator: Summed MWh of all max activities for all CPs

- Allocation to a CRRAH or QSE is based on its contribution to its CP's max activity
  - Settlements will invoice the uplift cost to the CP's CRRAHs and QSEs

Basic Example of Calculating Uplift Charges

Calculating the uplift charge for a Counter-Party:

Total Default Uplift	Total Max Market Activity	CP Name	CP Total Activity	CP Max Activity	CP MMARS	CP Uplift Allocation
$1M	40,000 MWh	CP 1	1,000 MWh	400 MWh (RTAML)	0.01 [400/40,000]	$10,000 [0.01x$1M]

Calculating the uplift charges for that CP's CRRAHs and QSEs:

CP 1	RTAML	DAM Buys	DAM Sales	CRR Buys	CRR Sales	Total Activity	Share of RTAML	Uplift Allocation
QSE 1	300	0	50	0	0	350	.75	$7,500
QSE 2	100	150	0	0	0	250	.25	$2,500
CRRAH 1	0	0	0	100	50	150	0	$0
CRRAH 2	0	0	0	200	50	250	0	$0

![ercot logo]

Proposed Changes to CRR Liquidation for Defaults

- ERCOT is currently working with market participants to improve the liquidation process for defaulted CRRs

- Goals of the improvements:

  - Reduce default uplift charges

  - Clear default quickly

  - Improve liquidity for negatively valued paths

  - Limit negative impacts to auctions when liquidating

    - Try not to greatly skew auction clearing prices and/or awards

  - Limit impacts to DAM CRR settlements

    - Try not to remove too much counter-flow which could lead to revenue inadequacy

  - Be transparent so the market participants can track the defaulted CRRs through DAM settlements and auction results

Proposed Changes to CRR Liquidation for Defaults – General Process

- "One-time" auctions will no longer be used

- All CRRs for the defaulting entity will be repossessed

  - CRRs for the current month will be allowed to settle in DAM

    - CRRs for the next month will also be allowed to settle in DAM if there isn't enough time to offer them into the upcoming monthly auction

  - Positive DAM settlements will be applied to the collateral account of the defaulting entity

    - Reduces the total default amount to be uplifted to the rest of the market

  - But, negative DAM settlements will add to the total default amount

    - Increases the total default amount to be uplifted to the rest of the market

Proposed Changes to CRR Liquidation for Defaults – General Process Continued

- Each CRR for future months will be offered into one auction covering the effective period of the CRR

    - Offer into a long-term auction if possible

    - Offer into a monthly auction if there will be no future long-term auction to cover the effective period

Proposed Changes to CRR Liquidation for Defaults – Aggregating CRRs

- Repossessed CRRs will be aggregated into one CRR for each month, TOU, and CRR type (obligation or option)

  - Fewer CRR IDs for ERCOT to offer into auctions and for Settlements to track

  - Easier for the market to track auction results for repossessed CRRs

  - Aggregating CRRs may help to award MW that might not have been awarded if offered as individual, negatively-valued CRR paths

  - Generic Source/Sink settlement points will be used for the CRR path but will only be used for aggregating repossessed CRRs, offering them into auctions, and tracking them through settlements

    - Participation factors for the generic settlement points will be created as a weighted average of the existing participation factors for the source/sink settlement points in each CRR to be aggregated

Proposed Changes to CRR Liquidation for Defaults – Aggregating CRRs Example

- Basic example of aggregating CRRs for monthly auction

  - 150 repossessed CRR IDs in a portfolio for JUL 2020

    - Consists of 25 Obligation and 25 Option CRR IDs (all 1 MW each) for each TOU

  - CRRs will be aggregated into one 25 MW Obligation CRR ID and one 25 MW Option CRR ID for each TOU (PWD, PWE, OP)

    - 6 total CRR IDs to be offered in JUL 2020 monthly auction

- Basic example of aggregating CRRs for long-term auction

  - 648 repossessed CRR IDs in a portfolio for JAN-JUN 2021

    - Consists of 18 Obligation and 18 Option CRR IDs (1 MW each) for each month and TOU

  - CRRs will be aggregated into one 18 MW Obligation CRR ID and one 18 MW Option CRR ID for each month and TOU

    - 36 total CRR IDs to be offered in next long-term auction for JAN-JUN 2021

Proposed Changes to CRR Liquidation for Defaults – Offering CRRs into Auctions

- Aggregated CRRs will only be offered into one auction (either monthly or long-term)

- CRR application (Market Operator Interface) will be modified to allow CRR market operator to assign aggregated CRRs directly to an auction, with no associated credit allocation

  - ERCOT will NOT transact in auctions like CRR Account Holders or Counter-Parties

  - CRRs will be offered at set prices, to be determined through the stakeholder process, with the goal of awarding as many MW as possible without drastically impacting the overall auction results

    - The currently proposed offer prices are:

      - -$0.01 for Options

      - -$250.00 for Obligations

Proposed Changes to CRR Liquidation for Defaults – Awarded CRR Offers

- Payments for awarded CRRs will be applied to the defaulting entity's collateral account, reducing the total amount of the default to be uplifted to the rest of the market

  – But, charges for awarded CRRs with negative clearing prices would increase the default amount

- For any aggregated CRRs that are not fully awarded, the remaining MW in the CRRs will be voided and removed from inventory

  – Repossessed CRRs that are offered into an auction will not be allowed to settle in DAM

    - The MW will either be fully sold in an auction or voided after the auction

Proposed Changes to CRR Liquidation for Defaults – Forfeited CRRs

- Forfeited CRRs were awarded in an auction, but the invoice wasn't paid, resulting in a default

- Forfeited CRRs will be treated the same as CRRs repossessed due to other types of defaults

- If forfeited CRRs are for a monthly auction, the CRRs will be allowed to settle in DAM

  - Positive DAM settlements will be applied to the collateral account of the defaulting entity

    - Reduces the total default amount to be uplifted to the rest of the market

  - But, negative DAM settlements will add to the total default amount

    - Increases the total default amount to be uplifted to the rest of the market

Proposed Changes to CRR Liquidation for Defaults – Forfeited CRRs Continued

- If forfeited CRRs are for a long-term auction (6-month block), the CRRs will be handled in the following ways:

  - If it was a Seq1 auction (nearest term 6-month block):

    - The CRRs will be offered into the appropriate monthly auction for the same time period that was covered by the Seq1 auction (6 total monthly auctions)

      - Payments for awarded CRRs will be applied to the defaulting entity's collateral account, reducing the total amount of the default to be uplifted to the rest of the market

      - But, charges for awarded CRRs with negative clearing prices would increase the default amount

Proposed Changes to CRR Liquidation for Defaults – Forfeited CRRs Continued

- If it was a Seq2 – Seq6 auction (up to 3 years in the future):

  - The CRRs will be offered in the next long-term auction for the same 6-month period

    - Payments for awarded CRRs will be applied to the defaulting entity's collateral account, reducing the total amount of the default to be uplifted to the rest of the market

    - But, charges for awarded CRRs with negative clearing prices would increase the default amount

Appendix – Settlement Examples

- Default with positive outcome (decreased default amount)

- Default with negative outcome (increased default amount)

- Forfeitures with positive outcomes – monthly and Long-Term Auction Sequence (LTAS) auctions (decreased default amount)

- Forfeitures with negative outcomes – monthly and LTAS auctions (increased default amount)

Example of Default with Positive Outcome (decreased default amount)

- Default occurs on April 10, 2020

  - Portfolio contains existing CRRs for each month through 2022

  - Default amount (minus available collateral) = ($500K)

- Repossessed CRRs are allowed to settle in DAM for the rest of April and all of May (too late to offer into May auction)

  - Net DAM settlements = $50K (applied to collateral account)

- Remaining CRRs are offered into LTAS auctions Seq1 – Seq5 covering all time periods through 2022 (auctions are held April – August 2020)

  - Net auction sells = $250K (applied to collateral account)

- Final default amount = ($200K)

  - Total default decreased by $300K

Example of Default with Negative Outcome (increased default amount)

- Default occurs on April 10, 2020

    - Portfolio contains existing CRRs for each month through 2022

    - Default amount (minus available collateral) = ($500K)

- Repossessed CRRs are allowed to settle in DAM for the rest of April and all of May (too late to offer into May auction)

    - Net DAM settlements = ($25K) (added to default)

- Remaining CRRs are offered into LTAS auctions Seq1 – Seq5 covering all time periods through 2022 (auctions are held April – August 2020)

    - Net auction sells = ($100K) (added to default)

- Final default amount = ($625K)

    - Total default increased by $125K

Example of Monthly Auction Forfeiture with Positive Outcome (decreased default amount)

- Unpaid invoice amount = ($100K)

  – Existing collateral = $50K

  – Remaining default amount = ($50K)

- Repossessed CRRs are allowed to settle in DAM throughout the month

  – Net DAM settlements = $10K (applied to collateral account)

  – Final default amount = ($40K)

    - Total default decreased by $10K

Example of LTAS Auction Forfeiture with Positive Outcome (decreased default amount)

- Unpaid invoice amount = ($500K)

  – Existing collateral = $250K

  – Remaining default amount = ($250K)

- Repossessed CRRs are sold in the next available auction

  – Net auction sells = $300K (applied to collateral account)

  – Final default amount = $0

    - Total default decreased by $250K

    - $50K back to the defaulting entity

Example of Monthly Auction Forfeiture with Negative Outcome (increased default amount)

- Unpaid invoice amount = ($100K)

  – Existing collateral = $50K

  – Remaining default amount = ($50K)

- Repossessed CRRs are allowed to settle in DAM throughout the month

  – Net DAM settlements = ($10K) (added to default)

  – Final default amount = ($60K)

    - Total default increased by $10K

Example of LTAS Auction Forfeiture with Negative Outcome (increased default amount)

- Unpaid invoice amount = ($500K)

  – Existing collateral = $250K

  – Remaining default amount = ($250K)

- Repossessed CRRs are sold in the next available auction

  – Net auction sells = ($25K) (added to default)

  – Final default amount = ($275K)

    - Total default increased by $25K