

CDWR Congestion Rents Reports Comparison

- Reports used to determine CDWR's participation in the CRR processes (Congestion CRR Reports)
- Reports from CDWR Settlements (Settlement Reports)

Comparison - Report details

Congestion CRR Reports

- Data type: Day Ahead (DA) Forecasted and Actual (historical)
- Data Source: L&R Studies and, respectively, actual DA schedules
- Data computation: **Balancing** CDWR sources with CDWR loads
- Usage: Determine 1. the amount of CRR CDWR needs to request, 2. Evaluate CRR performance: forecasted vs. actual

Settlement Reports

- Data Type: Actual (historical)
- Data Source: CC6011 – DA energy, congestion, loss settlement (based on actual DA schedules)
- Data computation: Replacing the LMP with the Marginal Cost of Congestion (MCC); **imbalanced**
- Usage: 1. How accurate were Congestion CRR reports; 2. It **may** represent what CDWR actual pays to CAISO for congestion rents; 3. Next Steps - Should we use these reports to estimate CR and request CRR?

Conditions when both reports are identical

- One and only condition: CDWR sources equals CDWR sinks
- Pre-MRTU: always
- MRTU: never



For both Reports, the Congestion Rents calculation is as follows:

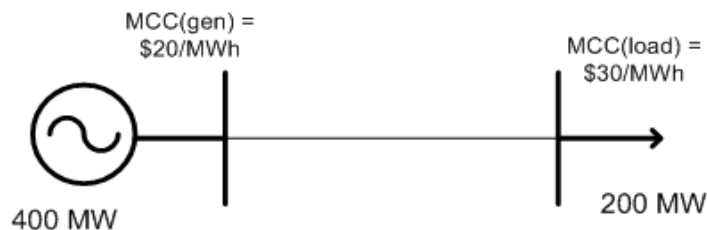
$$\begin{aligned} \text{CR} &= [\text{MCC (load)} - \text{MCC (source)}] \times \text{MW amount} \\ \text{CR} &= (30-20) \times 400 = \$4,000 \end{aligned}$$

Under MRTU – The reports will calculate different data

Scenario 1. Excess Source (mostly On-Peak)

Congestion CRR Report

- Excess source CR's impact is not considered due to restrictions in the CRR UB and CDWR CRR policy

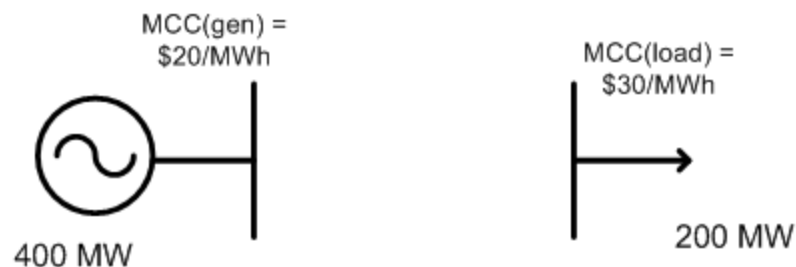


Congestion Rents are calculated only for the balanced source-load MW

$$CR = [MCC (load) - MCC (source)] \times MW \text{ amount}$$
$$CR = (30 - 20) \times 200 = \$2,000$$

CDWR Settlements Report

- Is the impact of the Excess source considered?



Congestion Rents are calculated for the source MW and load MW

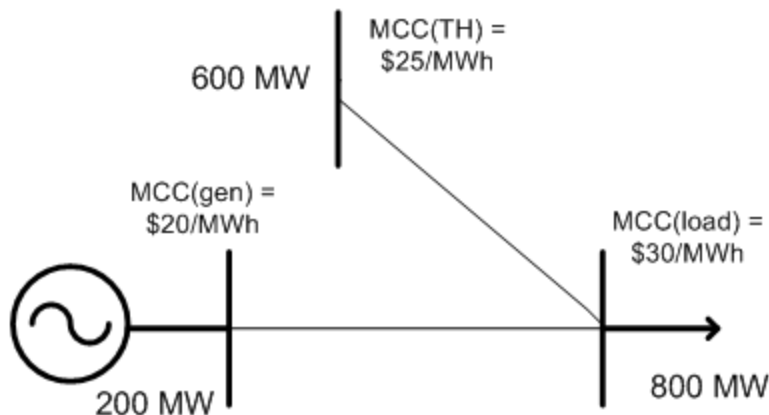
$$CR = [MCC (load)] \times Load \text{ MW} - [MCC (source)] \times Source \text{ MW}$$
$$CR = 30 \times 200 - 20 \times 400 = -\$2,000$$

Under MRTU – The reports will calculate different data

Scenario 2. Excess Load (mostly Off-Peak)

Congestion CRR Report

- Excess load is considered since the UB is 800 MW and CDWR policy allows to nominate CRR sourced at TH



Congestion Rents are calculated **balancing** source-load MW. Excess load is **balanced** from the TH.

$$CR = [MCC(\text{load}) - MCC(\text{source})] \times \text{MW amount}$$
$$CR = (30 - 20) \times 200 + (30 - 25) \times 600 = \$5,000$$

CDWR Settlements Report

1. Is Excess load considered?



Congestion Rents are calculated for the source MW and load MW

$$CR = [MCC(\text{load})] \times \text{Load MW} - [MCC(\text{source})] \times \text{Source MW}$$

$$CR = 30 \times 800 - 20 \times 200 = \$20,000$$

Under MRTU – The reports will calculate different data

Combined Scenario 1 and 2

Congestion CRR Report

$$\text{CR} = \$2,000 + \$5,000 = \$7,000$$

Actual data from the report for the entire 2011 period:

CR = \$X was hedged with
CRR = Roughly \$X

CDWR Settlements Report

$$\text{CR} = -\$2,000 + \$20,000 = \$18,000$$

Actual data from the report for the entire 2011 period:

CR = \$3X (December 2011 data is missing)

- Is it possible to hedge the CR resulted from the CDWR Settlements report based on unbalanced sourced and sinks with a CRR product which is based on balanced sources and sinks?