



CAISO CRR Working Group

Discussion on Analysis

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April 18, 2017



PG&E's concerns with existing CRR auction design

- ❑ CRRs are underfunded.
- ❑ CRRs are undervalued in auction compared to Day Ahead congestion.

❑ How often are CRRs underfunded?

- ❑ Definition of underfunding: CRR is owed payments that exceed the **actual** congestion rents collected in Day-Ahead Market.
- ❑ Identify causes of underfunding
 - ❑ Effect of transmission models is one likely area to investigate
 - ❑ Investigate effect of differences between transmission models used in CRR allocation and auctions and those used in Day-Ahead Market
 - ❑ Different power flow models
 - ❑ Different constraints and contingencies modeled

❑ What is the effect of CRR underfunding on loads?

- ❑ If CRRs are underfunded, load pays the shortfall so that CRR holders receive the full payments they are owed.
- ❑ Load is allocated the net revenues from CRR auctions.
- ❑ CRR auction revenues are not sufficient to cover underfunding.

- ❑ How often are CRRs undervalued in auctions?
 - ❑ Definition of undervalued: Clearing price for CRR in auction is less than the **expected value** of congestion rents collected in Day-Ahead Market.
- ❑ Why would CRRs be undervalued in auctions?
 - ❑ Are parties who hold CRRs offering to sell them at a price lower than their expected value in the Day-Ahead Market?
 - ❑ Does the CRR auction make use of unutilized capacity on transmission facilities (capacity not used by existing CRRs) to sell new CRRs or reconfigure CRRs offered in the auction?
 - ❑ Is the CRR auction selling such unutilized capacity at a price that is significantly lower than its expected value in the Day-Ahead Market?
 - ❑ What other effects should be considered?

Additional analysis is needed

- ❑ Additional data would help CAISO and Stakeholders evaluate the DMM's recommendations.

- ❑ **Useful data:**
 - ❑ The CAISO providing an expected value for a CRR between any two given points in the Day-Ahead Market so that DMM can benchmark auction performance against expected Day-Ahead Market performance.
 - ❑ Translating the expected value of a point-to-point CRR into the value of capacity on transmission constraints used by that CRR
 - ❑ Data that shows whether a CRR holder is selling some CRR positions to make the capacity available in the auction or whether the auction is using capacity that was not used by an existing CRR.
 - ❑ Based on the distinction above, the CAISO can further break down transactions representative of the transmission capacity by type of market participant (LSEs, generators, power marketers, financial entities).