



CRR Enhancements CAISO Policy Roadmap

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About Gridwell Consulting

- Analysis and advocacy consulting firm located in Sacramento, California – www.gridwell.com
- Educate, model, advise, and advocate
- Legislative support and advocacy
- California regulatory agency support and advocacy
- Seminars on CAISO market, resource adequacy, interconnection, and hydrogen development
- Interconnection evaluation and contract negotiation services



About WPTF

- The Western Power Trading Forum (WPTF) is a broad-based industry organization of companies that do business and advocate for competitive market rules throughout the Western Interconnection.



Role of Congestion Revenue Rights (CRRs)

- CRRs play a fundamental role in organized wholesale energy markets
- Serve as a congestion hedging tool and are intended to be the equivalent of firm transmission in an LMP system
 - FERC has affirmed this in multiple dockets
- The CAISO has continually evaluated and provided data on the CRR market performance over the past several years
- Two waves of CRR changes in the past 5 years



CAISO CRR Reforms 2019 and 2023

- CAISO has implemented several changes to the CRR market focused on CRR underfunding issues
- 2019: Phase 1B implemented pro-rata funding that allocates underfunding on a constraint basis
 - Intent to align with cost-causation principles
 - Expectation that transmission outages and/or network topology changes drive underfunding of CRRs
- 2023: Market Performance Report in May 2020 identified an issue with the use of Shift Factor Threshold cutoff for DLAPs/THs
 - CAISO implemented changes in Fall of 2023 to address the issue, which seemed to primarily impact low voltage lines



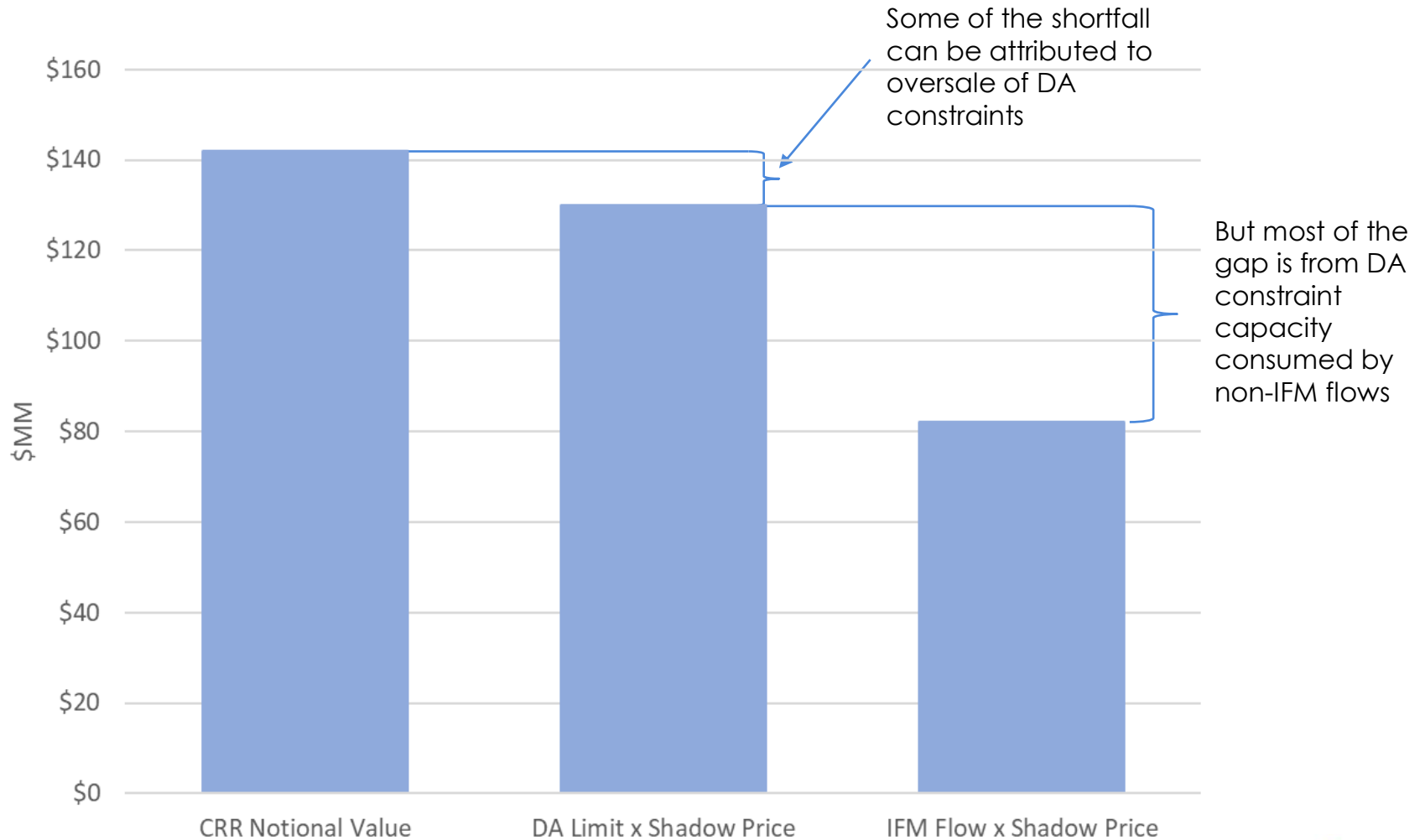
Recent Revenue Inadequacy is Both Extreme and at Higher Voltages than Previously

- Despite the Shift Factor Threshold issue being addressed, recent CRR revenue inadequacy seems to be occurring at higher voltages
- Additionally, 25% of low voltage constraints still saw recent funding levels of just 20%
- Level of underfunding does not seem to be related to just transmission derates

Notional Revenue Vs Underfunding 1/1/2024 - 04/15/2024				
Type	Notional Revenue	Underfunding	Count of Constraints	% Funded
230kV and Above	\$197,164,711	-\$85,050,186	38	57%
Below 230kV	\$10,556,160	-\$2,598,279	92	75%
Grand Total	\$207,720,871	-\$87,648,465	130	58%

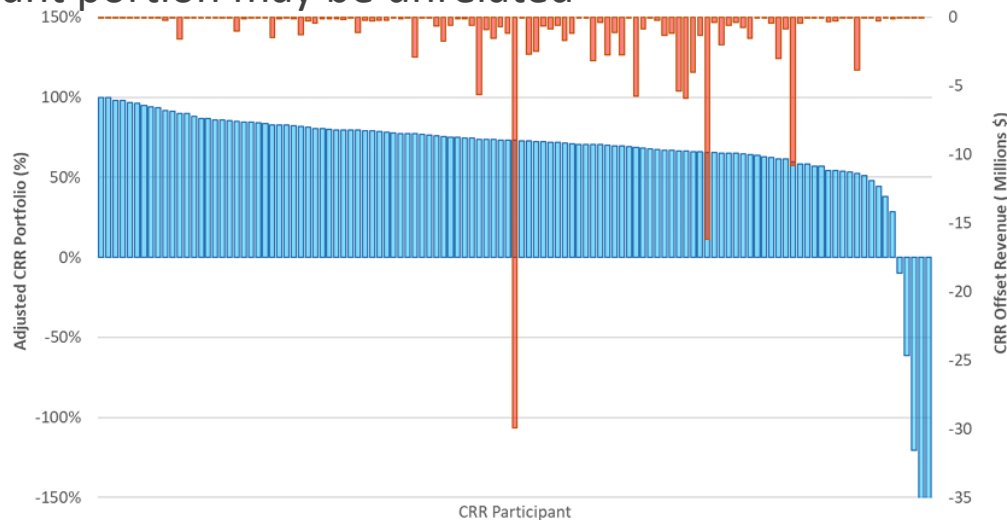


CRR Shortfall Jan – Apr 15, 2024

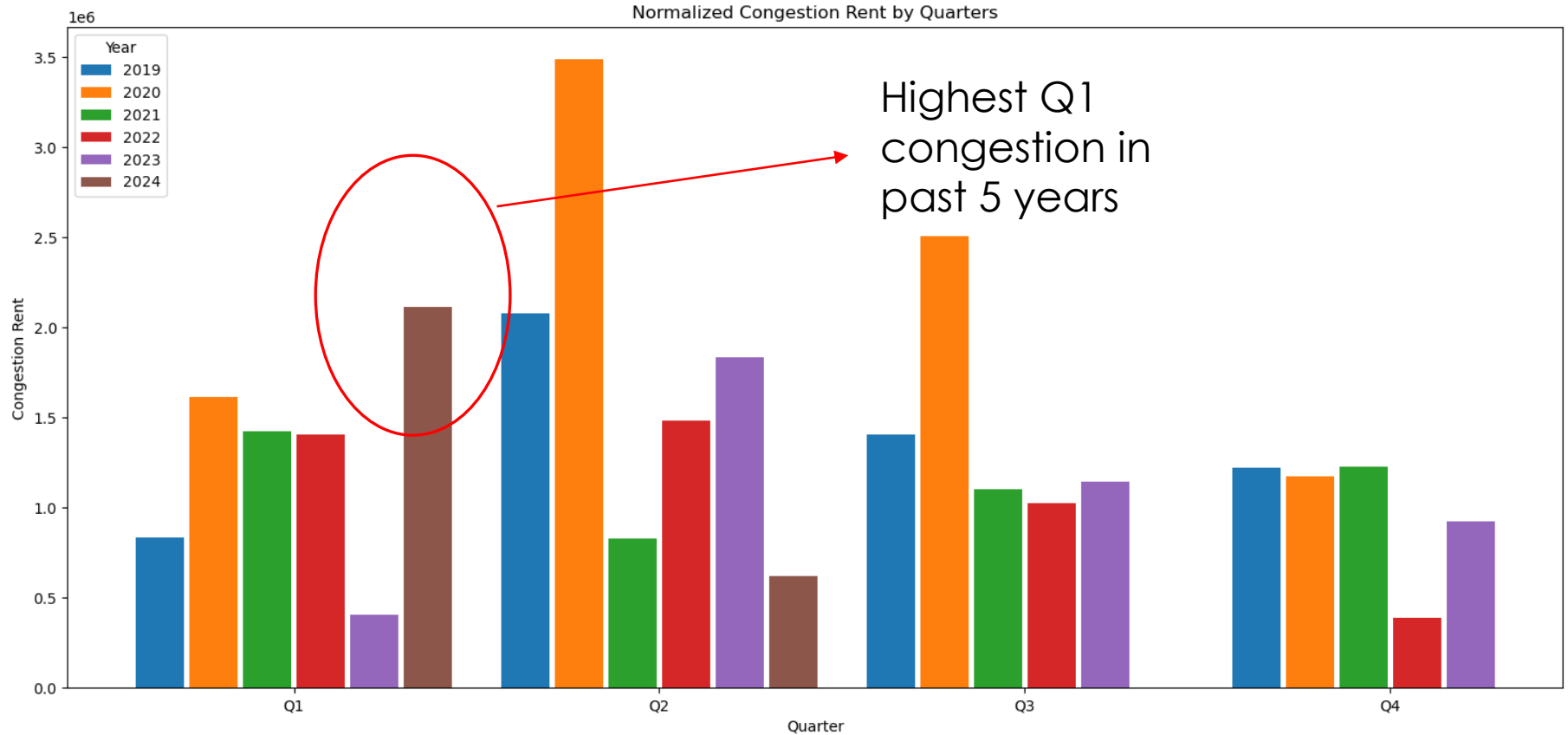


Pro-rata Funding Reverses Position of CRRs

- Allocation of underfunding can completely reverse the position of the CRRs
 - Notional value is positive but after underfunding allocation, value is negative
- CRRs are now riskier to hold, undermining the purpose of CRRs to act as a congestion hedging tool
 - While some underfunding allocation is cost-causation based, it appears that a significant portion may be unrelated



Increasing Congestion in CAISO Heightens the Importance of CRRs as Congestion Hedges



Note: 2024 Q2 only represents two weeks of the quarter



CRR Enhancements Potential Scope

- What are the root causes of current revenue inadequacy, and which are causation-based, and which (like the shift factor cutoff) are unrelated to the CRR market?
- Are market participants able to use CRRs as congestion hedges given the high levels of underfunding?
- Should reform be considered regarding constraint-based allocation to help preserve function of CRRS and ensure allocation is still aligned with cost causation?
 - Only allocate underfunding on a constraint basis that can be attributed to transmission topology differences between IFM and CRR model
 - Cap the underfunding to a ratio of no more than the physical transmission capability across a constrained path to the CRR market flow
 - Allow overfunding to help offset underfunding more broadly





Thank you! Questions?

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