CRR auction design is fundamentally flawed

Ryan Kurlinski – Manager, Analysis and Mitigation Group
Department of Market Monitoring
California Independent System Operator

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Background: Selection of DMM reports on CRR auction design flaws

- *Comments on the CRR Auction Analysis Working Group*, Department of Market Monitoring, January 2018: http://www.caiso.com/Documents/DMMComments-CRRAuctionAnalysisReportWorkingGroup.pdf
- *Response to Additional Questions for the Record*, submitted by Eric Hildebrandt to Committee on Energy and Commerce Subcommittee on Energy United States House of Representatives, January 9, 2018: http://www.caiso.com/Documents/ResponsestoAdditonalQuestionsreTestimonyofEricHildebrandt-Jan92018.pdf
- *Addressing revenue inadequacy does not resolve ratepayer losses from flawed CRR auction design*, Department of Market Monitoring, December 19, 2017: http://www.caiso.com/Documents/CRRAuctionWorkingGroupPresentation-RyanKurlinskiDMM-Dec192017.pdf
- *Summary of Testimony of Eric Hildebrandt, PhD*, submitted to Committee on Energy and Commerce Subcommittee on Energy United States House of Representatives, November 29, 2017: http://www.caiso.com/Documents/TestimonyofEricHildebrandt_Nov29.pdf
- *Problems in the performance and design of the congestion revenue right auction*, Department of Market Monitoring, November 2017: http://www.caiso.com/Documents/DMMWhitePaper-Problems_Performance_Design_CongestionRevenueRightAuction-Nov27_2017.pdf
- *Market alternatives to the congestion revenue rights auction*, Department of Market Monitoring, November 2017: http://www.caiso.com/Documents/DMMWhitePaper-Market_Alternatives_CongestionRevenueRightsAuction-Nov27_2017.pdf
- *Shortcomings in the congestion revenue right auction design*, Department of Market Monitoring, November 2016: http://www.caiso.com/Documents/DMM-WhitePaper-Shortcomings-CongestionRevenueRightAuctionDesign.pdf
- *Auctioned FTRs: Financial Swaps ratepayers are forced to sell…for huge losses*, Department of Market Monitoring, presented at Harvard Electricity Policy Group Meeting, October 13, 2016: http://www.caiso.com/Documents/DMM_Presentation_on_CRR_Auction_at_HEPG-Oct132016.pdf

CRR *allocation*

- Allow transmission customers (LSEs paying TAC) to hedge power purchases
- Method of allocating congestion rents back to those who paid for transmission to be built
- Congestion rents not allocated through CRR allocation
  - Still belong to TAC payers
  - Get allocated back to TAC payers

CRR *auction*– the myth

- Stories told by proponents to support current CRR auction design:
  - Leftover congestion rents after the allocation
  - *IF* single auction model = hundreds of DAM models
    →Auctioning FTRs is like auctioning leftover congestion rents
  - *IF* competitive market
    → Auction revenues should converge to day-ahead market payouts
  - FERC thinks ISOs need to run auctions that offer hedges to generators and financial entities

FERC Standard Market Design: Allocate CRRs to customers, no auction requirement, **voluntary** CRR sales

- Standard Market Design White Paper on Wholesale Power Market Platform, April 28, 2003:

  "The Final Rule will eliminate any requirement that FTRs be auctioned. We will, instead, look to regional state committees to determine how such rights should be allocated to current customers based on current uses of the grid." [p. 5]

  "There would be no requirement to auction these FTRs either initially or after a transition period ….. Once the initial allocation of FTRs is completed, the RTO or ISO must operate a secondary ***market*** for holders of FTRs to ***voluntarily sell*** their FTRs to others." [Appendix A. p. 9. Emphasis added.]

Energy Policy Act and Order 681: Allocate CRRs to LSEs, no requirement for them to sell *more*

- Order No. 681, Final Rule, July 20, 2006, ¶116 at p. 66.

  "The primary objective of guideline (1), consistent with section 217(b)(4), is to allow a ***load serving entity*** to obtain a long-term firm transmission right for purposes of hedging congestion charges associated with delivery of power from a long-term power supply arrangement to its load. We will adopt guideline (1) without modification." [Emphasis added.]

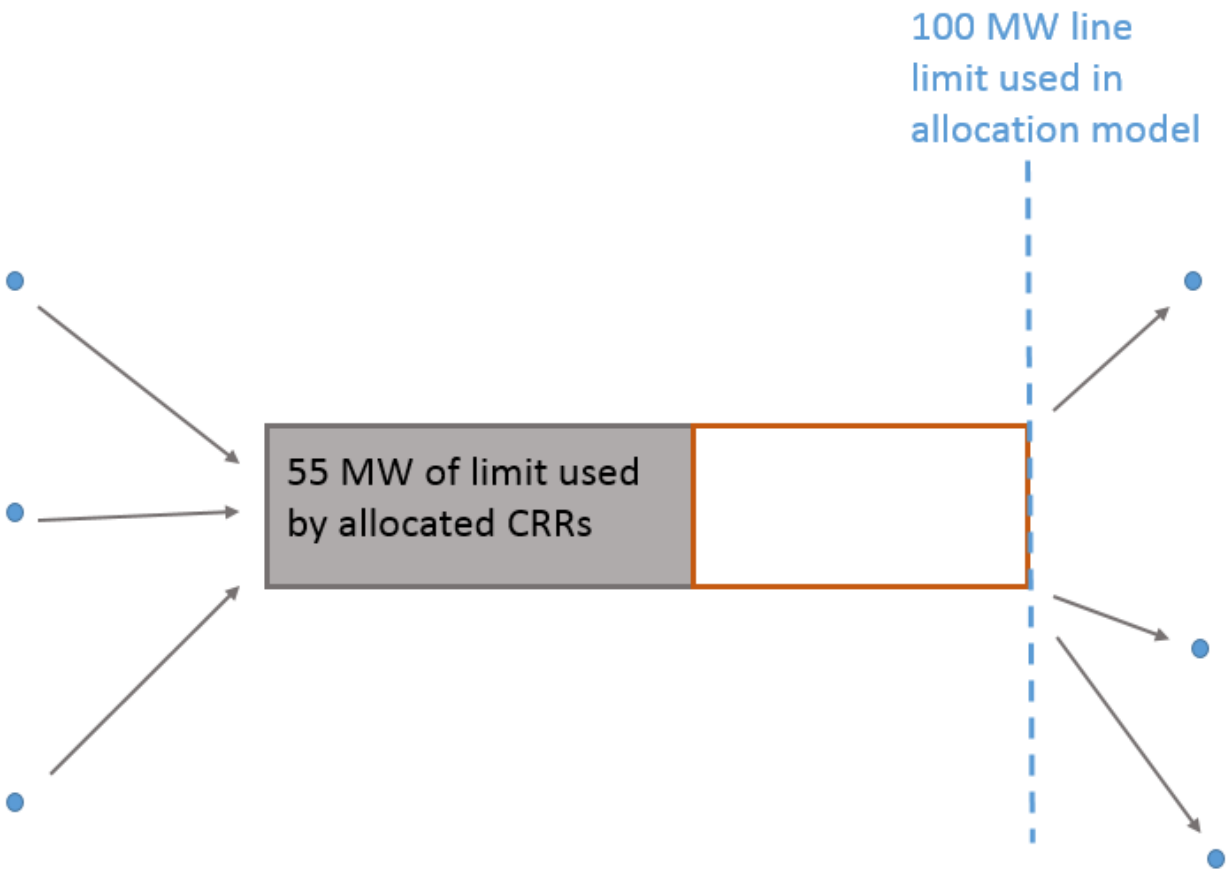
- Clear in Order 681 that Energy Policy Act of 2005 requirements on FTRs apply only to allocation of FTRs to LSEs – does not require sale of additional FTRs by ISO through an auction.
  - See Order No. 681, Final Rule, July 20, 2006, ¶361 to ¶393 at pp.172-190.

CRR auction– facts

- Underlying transaction:
  - Ratepayer implicitly sells financial swap
    - Receives auction revenue
    - Obligated to pay hourly price difference between 2 nodes
- CRR auction network model defines quantity of swaps ratepayers forced to offer ***at $0 reservation price***

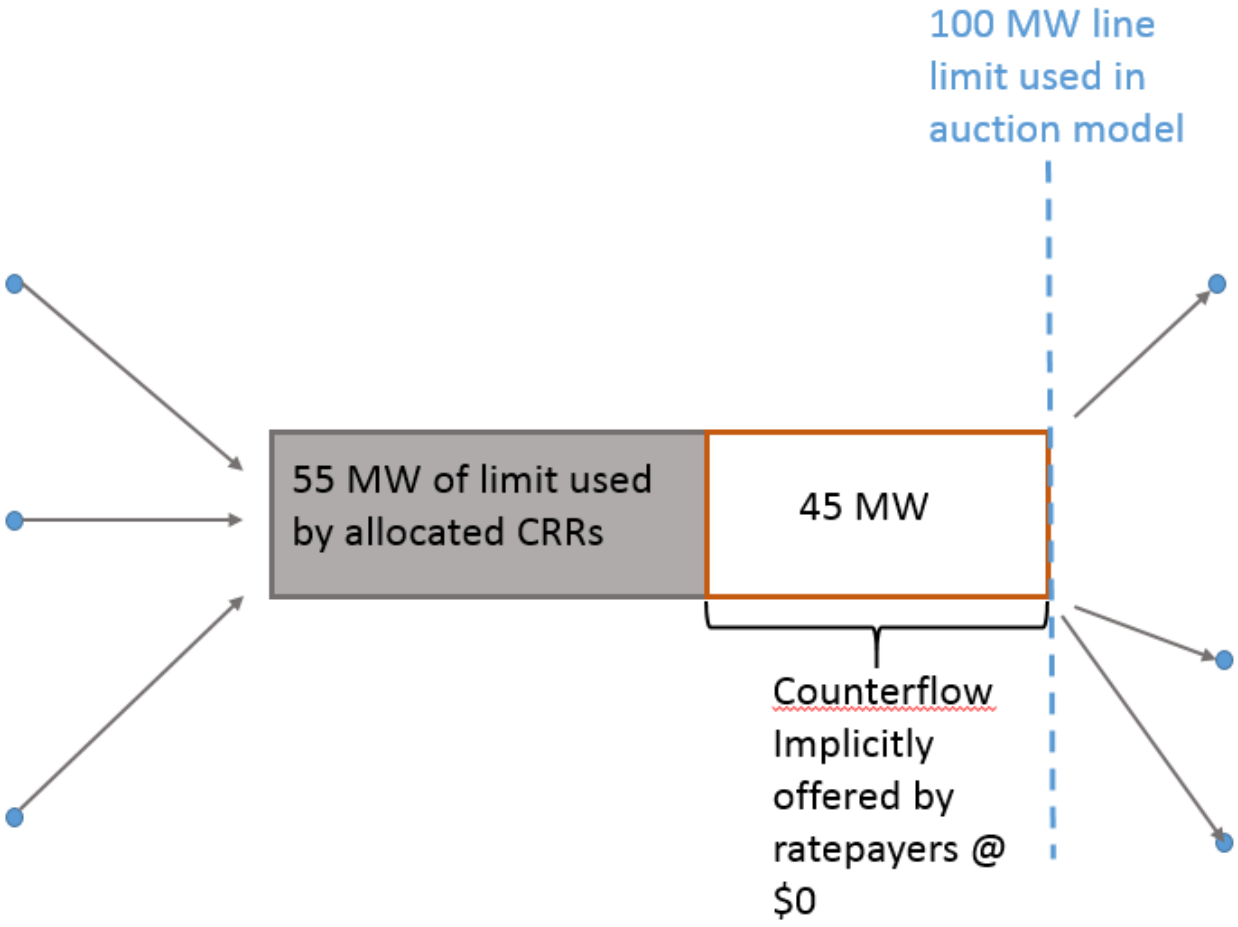
FTR auction model defines quantity of swaps ratepayers forced to offer at $0 reservation price

Allocation: Line limit set at expected DAM limit of 100 MW



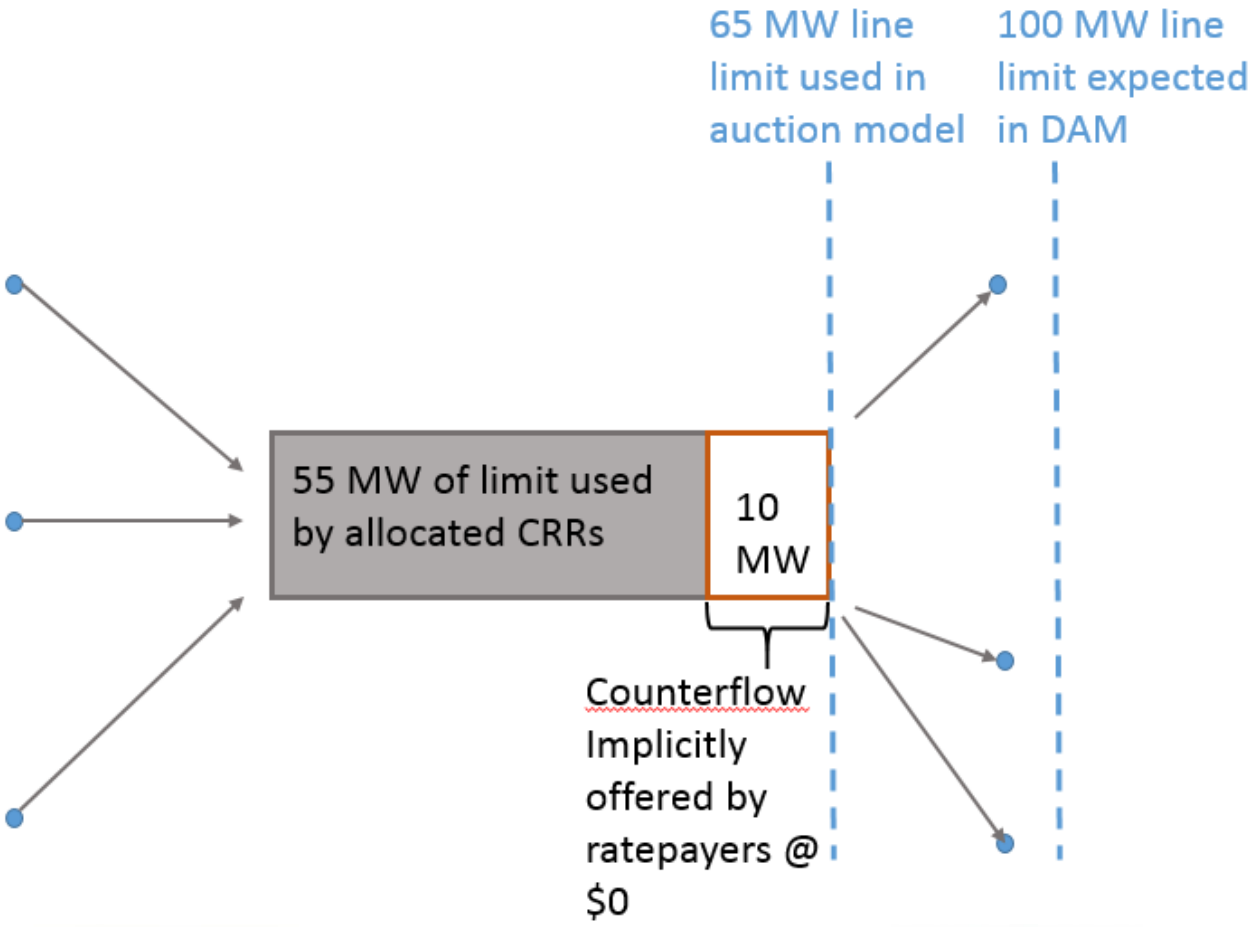
FTR auction model defines quantity of swaps ratepayers forced to offer at $0 reservation price

Auction: Line limit set at expected DAM limit of 100 MW



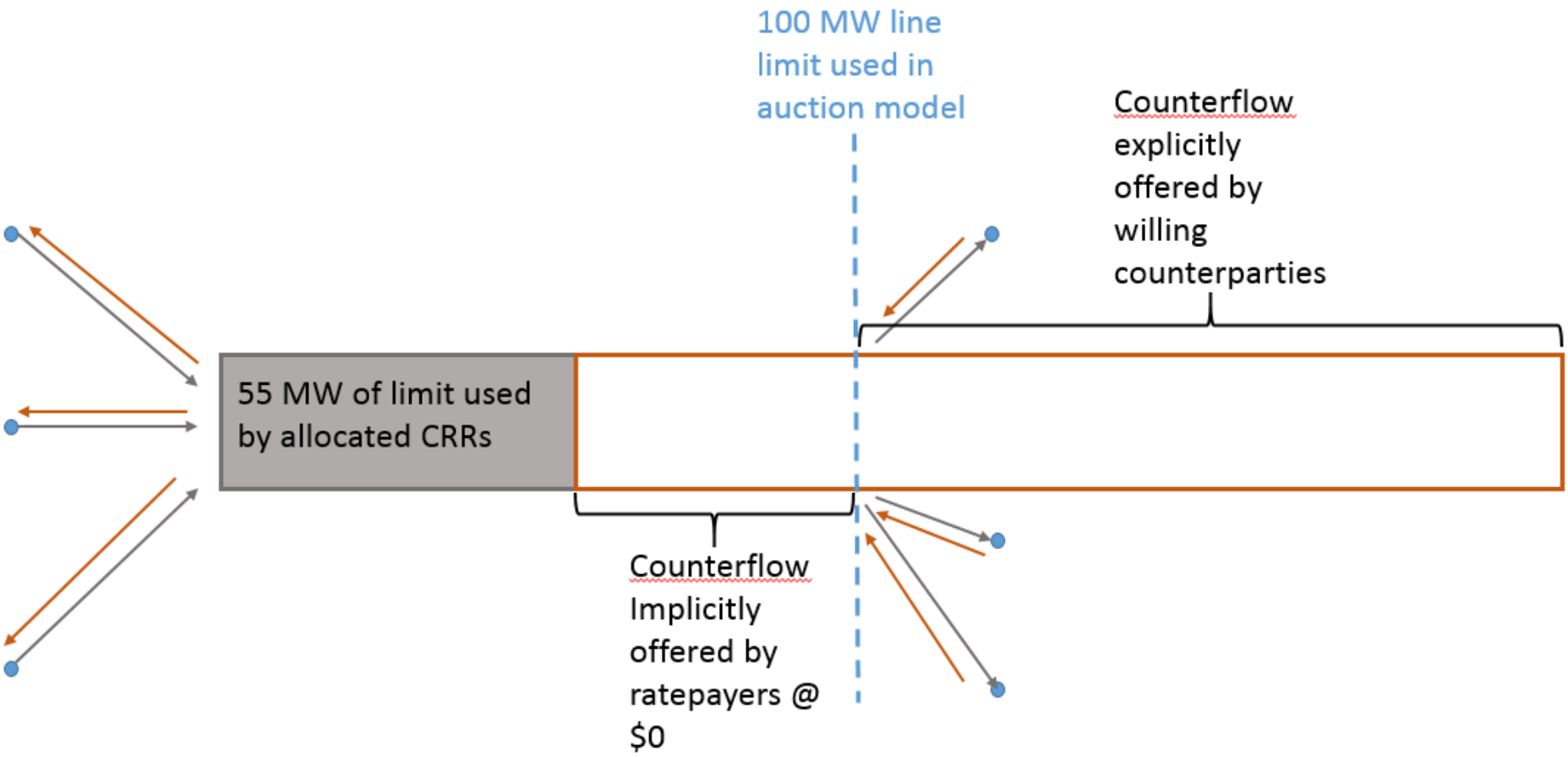
FTR auction model defines quantity of swaps ratepayers forced to offer at $0 reservation price

Auction: Line limit set at 65 MW (below expected DAM limit of 100 MW)



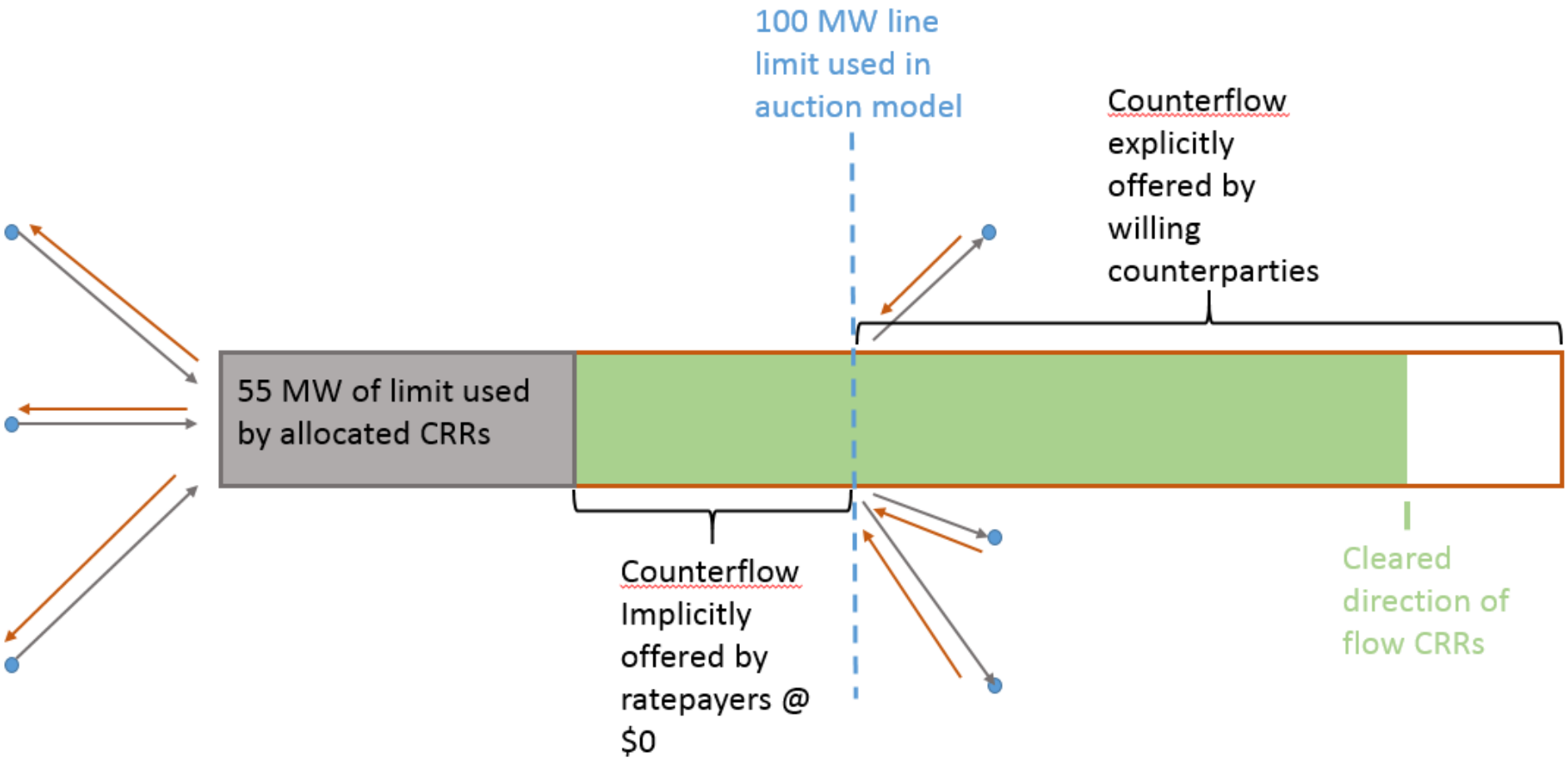
FTR auction model defines quantity of swaps ratepayers forced to offer at $0 reservation price

Auction: 100 MW line limit + willing sellers offering counterflow CRRs

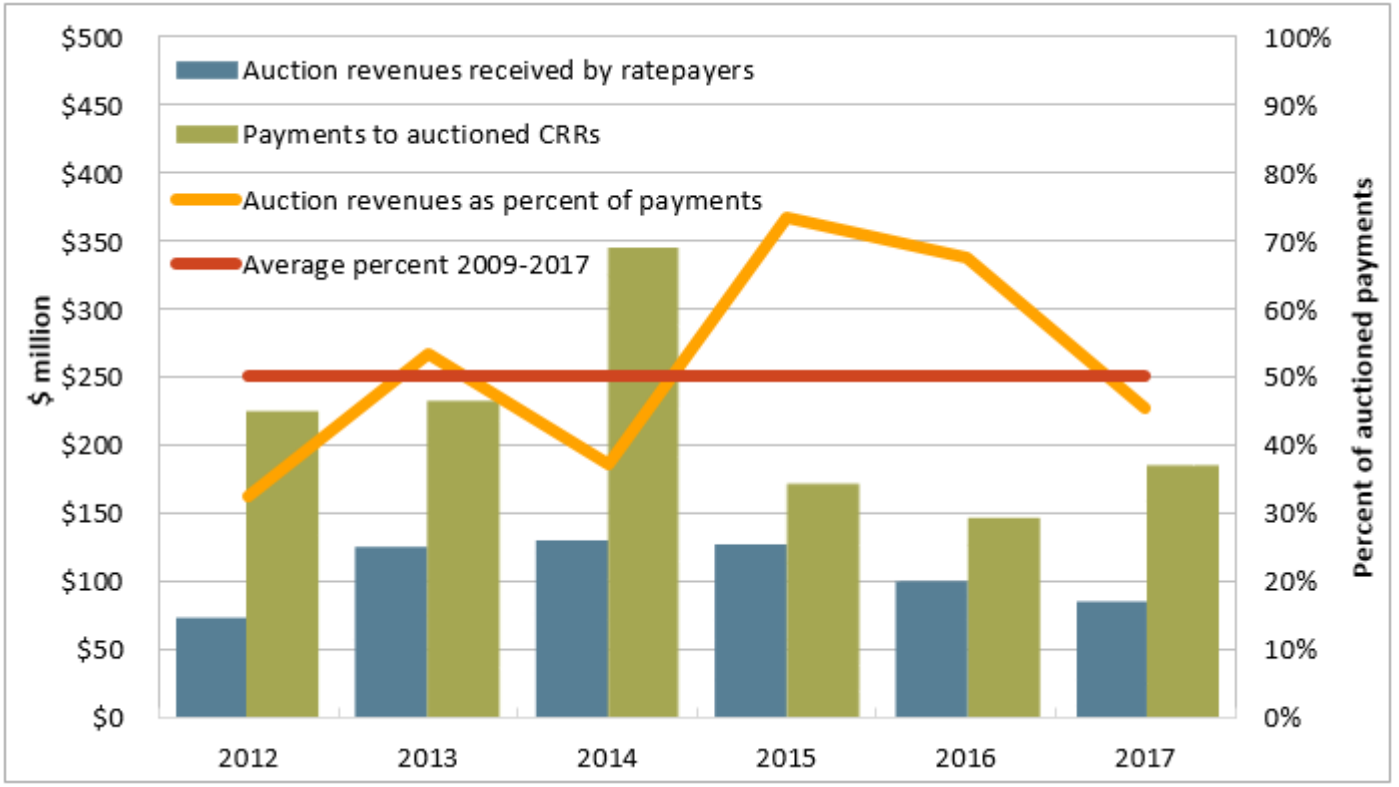


FTR auction model defines quantity of swaps ratepayers forced to offer at $0 reservation price

Auction: 100 MW line limit + willing sellers + cleared direction of flow CRRs



Big CAISO ratepayer losses from being forced to offer large quantities of (CRR) swaps at $0 reservation price



- Big ratepayer losses in the other largest ISOs as well[1]

[1]See research from the Stanford University Economics Department: Leslie, Gordon "Why do transmission congestion contract auctions cost ratepayers money? Evidence from New York" November 14, 2017, downloaded 11/17/2017: http://www.web.stanford.edu/~gwleslie/index_new_files/Leslie_JMP20171114.pdf

How do we fix this flawed CRR auction design- Part 1

- Proponents of auction: “Address revenue inadequacy”
  - Would obviously reduce ratepayer losses

BUT

- No reason to believe ratepayer losses magically go to zero if revenue adequacy achieved
  - Ratepayers still offering large quantities of swaps at $0 reservation price
  - MISO: Massive ratepayer losses from auction despite achieving revenue adequacy

How do we fix this flawed CRR auction design- Part 2

- The fundamental flaw
  - Using an estimate of day-ahead market models to determine quantity of (FTR) swaps ratepayers forced to offer at $0 reservation price

- Directly address the flaw
  - Set line limits in FTR auction model to 0;[2] and/or
  - Other options for *market* where transactions only occur between willing sellers and willing buyers

[2]*See SCE CRR Proposal,* Southern California Edison, December 11, 2017*:* http://www.caiso.com/Documents/SCEComments-CRRAuctionAnalysisReport.pdf