



Congestion revenue rights auction efficiency

Track 1 draft final proposal

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Three tracks for addressing auction efficiency

- **Track 0:** Process changes under current authority
 - Ongoing
- **Track 1:** Stopgap measures in time for annual 2019 process
 - Target March 2018 BOG
- **Track 2:** Potential comprehensive changes
 - Target mid-year BOG

Net payment deficiencies

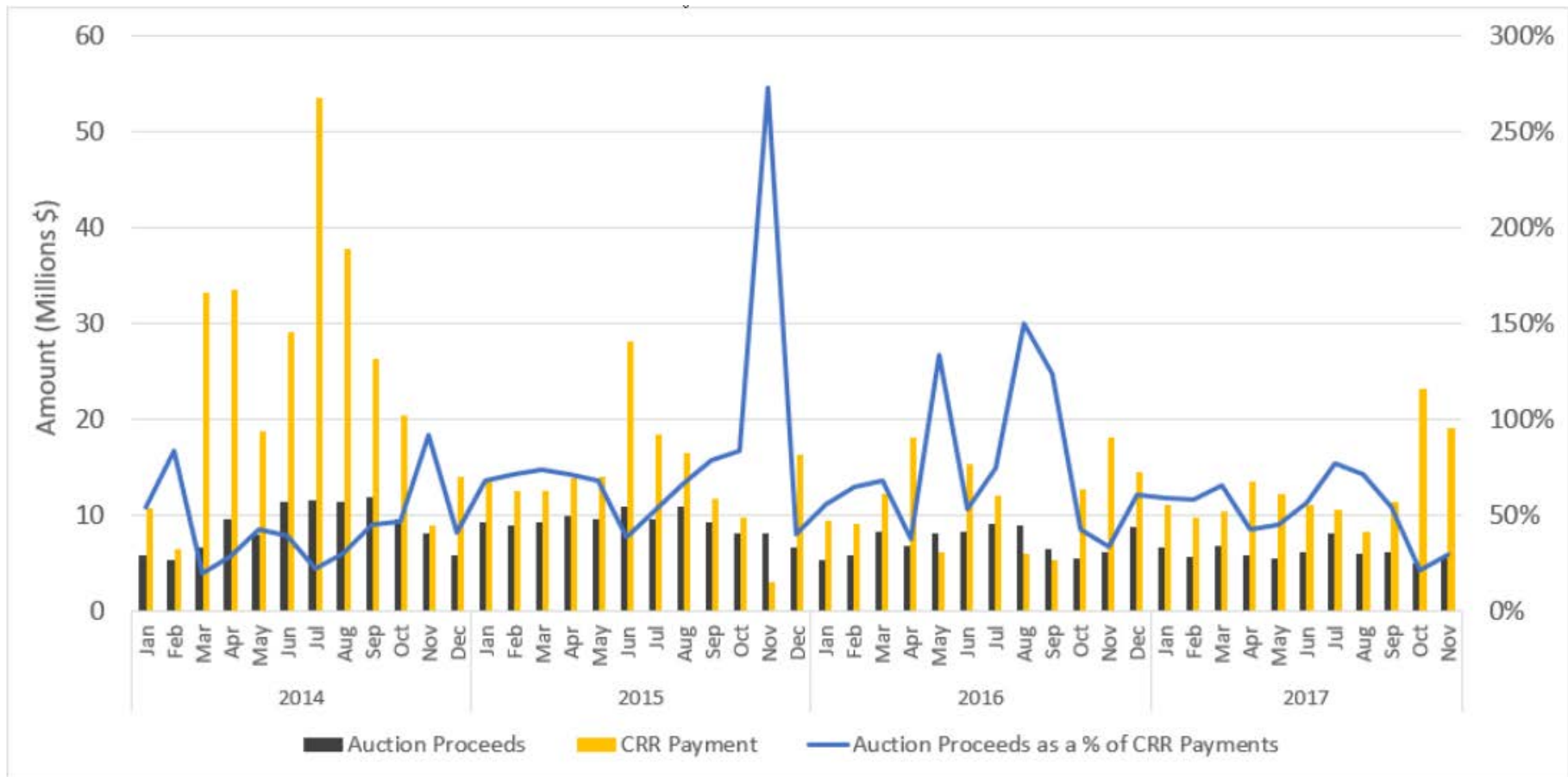


Figure 1: Auction proceeds versus payouts

Track 1 objectives

- Policy has potential to make meaningful impact
- Policy implementable in time for annual 2019 process

Proposals

- Package of four policy proposals
- Two proposals aimed at auction competitiveness consistent with use of congestion revenue rights as a hedge for supply delivery
- Two proposals aimed at improving the release of system capacity consistent with the actual transmission that will be ultimately available.

RESTRICT ALLOWABLE SOURCE AND SINK PAIRS

Restrict allowable source and sink pairs in the auction

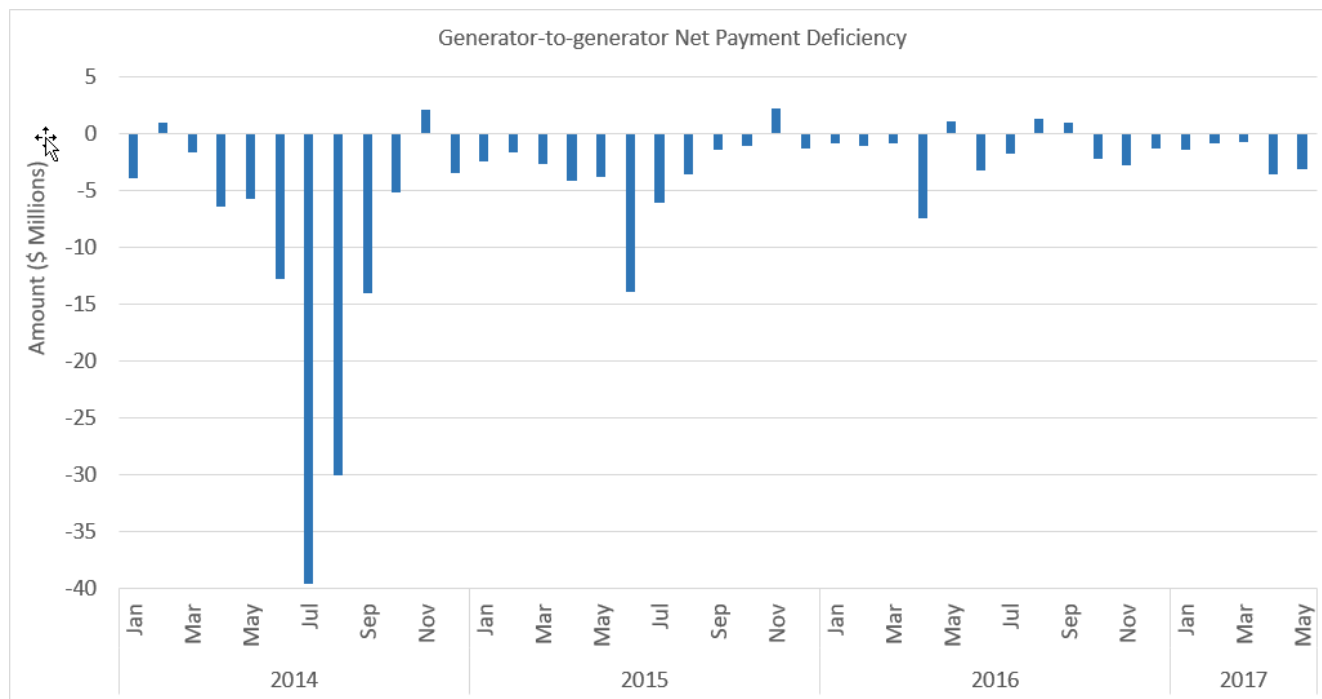
- Restrict eligible source and sink pairs to those needed for hedging supply delivery

Current Rule	Proposal	Benefit
Auction has no limitation. Market participants can buy any pair, such as between generator locations or between load aggregation locations.	Limit pairs to generator and intertie nodes to trading hubs, loads, and interties	Align auction with hedging supply delivery and increase competitive auction outcomes.

	Sink					
	LAPs	GEN	PNODE	TIE	TH	
Source	LAPs					
	GEN	Y			Y	Y
	PNODE					
	TIE	Y				Y
	TH	Y			Y	

Generator to generator bid observations

- \$186 million in net payment deficiency since 2014
- Over 50% of awarded rights
- Are these transactions providing counter-flow or competitive flow value in the auction?

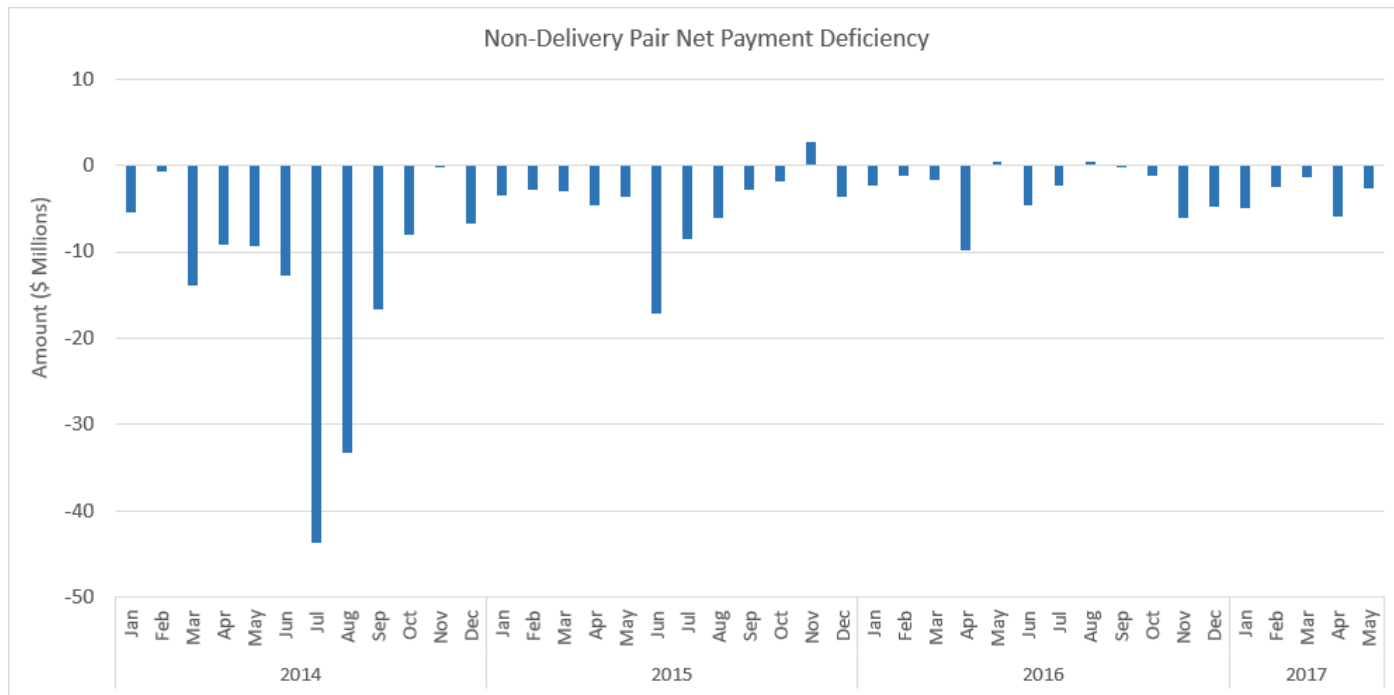


Generator to generator bid observations

- Compared 2018 season 3 actual results to auction run without the generator-to-generator bids
 - Overall bid clearing percentage increases from 15.5% to 33.5% (MW bid versus MW cleared)
 - Non-generator-to-generator cleared bids increase by 13,000 MW to 50,000 MW
 - Bids cleared to the LAPs increase by 7,100 MW to 16,000
 - Average auction prices increase from \$113/MW to \$117/MW

Non-delivery pair bid observations

- \$280 million in net payment deficiency since 2014
- Account for over 79% of awarded rights
- Are these transactions providing counter-flow or competitive flow value in the auction?



Non-delivery pair bid observations

- Compared 2018 season 3 actual results to auction run without the non-delivery pair bids
 - Overall bid clearing percentage increases from 15.5% to 36% (MW bid versus MW cleared)
 - Non-delivery pair cleared bids increase by 5,000 MW to 22,000 MW
 - Bids cleared to the LAPs increase by 3,800 MW to 12,700 MW
 - Average auction prices increase from \$113/MW to \$147/MW

Potential impact

- Net payment deficiencies reduce to between \$3 million to \$30 million per year
- Does not include impact of increase in competitiveness on clearing prices

MODEL DISCLOSURE INFORMATION

Eliminate disclosure of certain modeling information

- Market participants should base nomination/bids on expectation of actual day-ahead market results, not on our specific auction model
- Reduce opportunities to exploit the auction based on our particular modeling practices

Current Rule	Proposal	Benefit
Disclose CRR auction model that includes exactly how outages, contingencies, and constraints are modeled in the auction model itself.	Will provide outage information and list of all possible constraints and contingencies, Will not disclose which outages are modeled out-of-service and constraint/contingency enforcement status	Aligns nominations and bidding with expectations of actual day-ahead models rather than the specific way the ISO models the congestion revenue rights market.
ISO builds one CRR model and discloses it to market participants.	Ensure market participants have all required information to determine expected day-ahead market results.	Participants can estimate day-ahead congestion and base CRR bidding accordingly.

Observations

- Both load serving entities in allocation and market participants in auction allow the congestion revenue rights model itself to influence their bidding locations and prices
- Market participants should represent willingness to pay for hedging supply delivery in their bids

RELEASE LESS SYSTEM CAPACITY

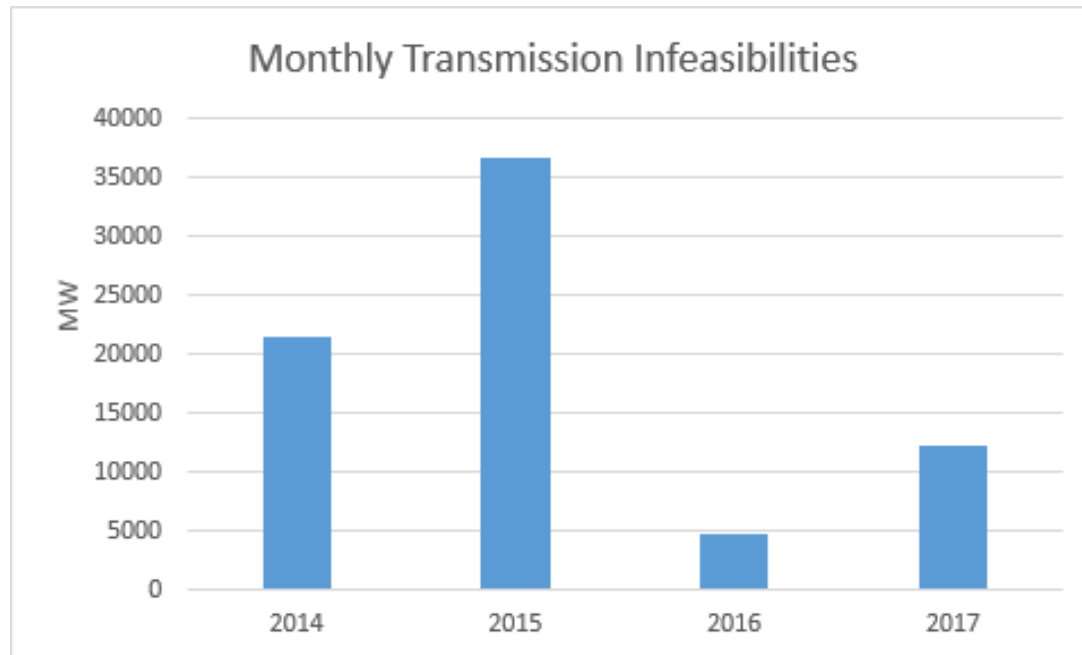
Decrease percentage of system capacity released in annual CRR process

- Align percentage of system capacity released with our confidence in the topology as of the time we run the market

Current Rule	Proposal	Benefit
Release 60% of system capacity in long-term allocation	Release 40% of system capacity into the long-term allocation process.	Reduce overselling the available transmission capacity
Release 75% of system capacity in annual allocation and auction process.	Release 45% of system capacity into the annual allocation and auction process.	Reduce overselling the available transmission capacity

Transmission infeasibilities

- Transmission used in annual is ultimately not available
 - Average of 18,800 MW of monthly transmission infeasibilities
 - 12,200 MW in 2017
 - Over 6,000 MW already in 2018
- Reduction in system capacity released will reduce infeasibilities



Allocation and auction results at lower limitations

- Compared 2018 season 3 actual results to auction run without the non-delivery pair bids and system limits set at 45%
 - Allocation clears 23% of nominated rights compared to 49% today
 - 12,300 MW cleared compared to 27,600 MW in reality
 - Auction clears 15.2% of bids compared to 16.7% today
 - 9,300 MW clear
 - Total of 83,600 MW clear today
 - Total of 66,000 MW of non-delivery pairs clear today

OUTAGE REPORTING

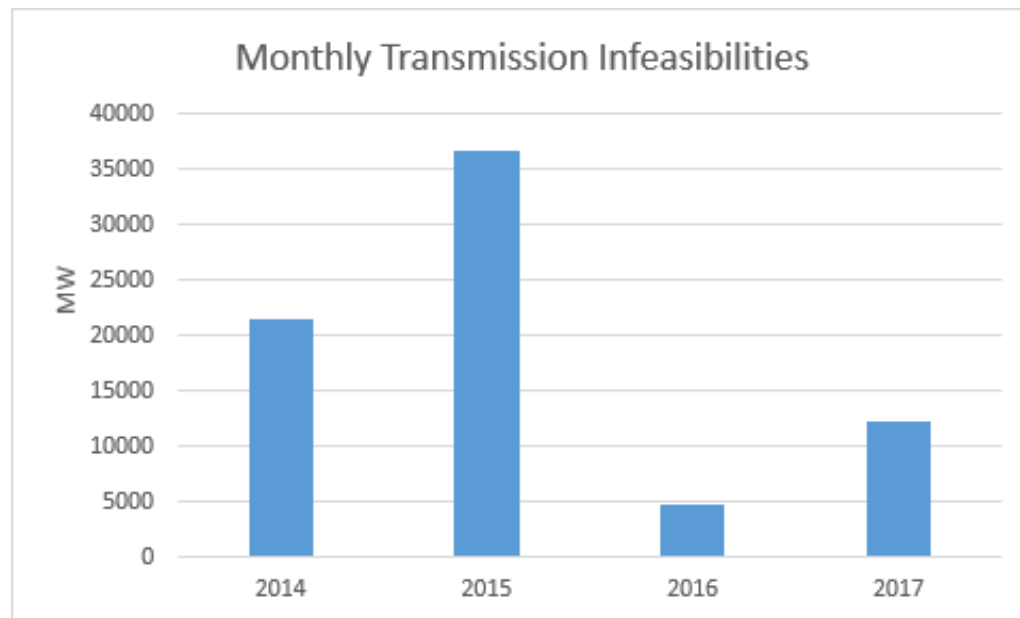
Receive outages in time for annual process

- Increase amount of outage information that can be incorporated into annual allocation and auction
- Only receive the information the CAISO needs

Current Rule	Proposal	Benefit
No annual CRR outage reporting requirement	Require submittal transmission maintenance work by July 1	Enables modeling of high-impact outages in the annual process
No annual CRR outage reporting requirement	Only require plan for those facilities that meet the CRR reporting criteria in the tariff	Target information requirements to only those facilities needed for CRR modeling purposes.
No annual CRR outage reporting requirement Required to report all outages on defined facilities by 30 days prior to start of the month of the outage	Only require reporting for types of outages that impact the CRR model	Target information requirements to only those types of outages needed for CRR modeling purposes

Transmission infeasibilities

- Transmission used in annual is ultimately not available
 - Average of 18,800 MW of monthly transmission infeasibilities
 - 12,200 MW in 2017
 - Over 6,000 MW already in 2018
- The more outage information received in time for annual will reduce infeasibilities



NEXT STEPS

Next steps

- Stakeholder comments due on February 28, 2018
 - Submit written comments to InitiativeComments@caiso.com
- CAISO Board of Governors meeting on March 21-22, 2018

THANK YOU

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