DC Energy, Comments on Congestion Revenue Rights Auction (CRR) Auction Efficiency Track 1B Straw Proposal Addendum

Submitted by	Company	Date Submitted
Seth Cochran – (512) 971-8767	DC Energy	June 7, 2018

DC Energy appreciates the opportunity to provide comments on the CAISO's Congestion Revenue Right (CRR) Auction Efficiency Straw Proposal Addendum ("Addendum Proposal") for the CRR Track 1B published on May 25, 2018. The CAISO's Addendum Proposal made significant revisions to the method of assigning CRR deration. DC Energy's comments identify several issues with the revised Addendum Proposal and recommend changes to help ensure CRR deration is distributed equitably.

I. The current timeline for the CRR Track 1B initiative is overly compressed and does not contemplate the need to incorporate stakeholder feedback:

CAISO's original Draft Final Proposal ("Original Proposal") effectively allocated CRR deration according to a CRR portfolio's net flow on an oversold constraint. This was achieved by assigning credits to counterflow settlement in an amount commensurate to the counterflow provided. The CAISO eliminated the provision of counterflow credits in the Addendum Proposal and instead proposed to base deration shares on prevailing flow settlement only. The CAISO now seeks final consideration of this significant change in two weeks from the due date of these comments.[1] Given this compressed timeline, the request for comments appears to be a formality rather than an effort to thoroughly consider stakeholder input. DC Energy understands the desire to proceed expeditiously; however, this is at the expense of a well-vetted proposal. In addition to process concerns, the Addendum Proposal offers very little support for its 'last-minute' revision. The following CAISO narrative provides the most information on why the changes were necessary:

> *"The CAISO originally proposed a shortfall allocation approach in which it would reduce both (1) the day-ahead payment to congestion revenue rights in the prevailing flow direction and, (2) the payment received from counter-flow congestion revenue rights. In **Section 6.2.1** and the **Appendix**, the CAISO has reconsidered this approach, and now proposes to only reduce the payment to congestion revenue rights in the prevailing flow direction in the event of an over-subscribed constraint. <u>This is more consistent with the design of the simultaneous feasibility test, minimizes total shortfall revenue requirements, and reduces the potential for lower auction revenues</u>."*[2] *(Emphasis added)*

It is unclear how the Addendum Proposal helps address the three items in the last sentence as compared to the Original Proposal. Among them is the claim regarding

[1] The CAISO's Addendum Proposal indicates they seek to take the proposal to the June 21st Board meeting

[2] CAISO Draft Final Proposal Addendum at page 5

consistency with the simultaneous feasibility test (SFT). The SFT would be used to determine the amount of infeasible CRR settlement and is the same in both proposals. The Addendum Proposal allocates the infeasibility using prevailing settlement and the Original Proposal uses net settlement. The CAISO does not explain its claim that allocating the infeasibility to gross prevailing settlement is "is more consistent with the design of the simultaneous feasibility test." Despite the lack of explanation or evidence, the CAISO is rushing its review and approval. Openness and collaboration are being overshadowed by expediency in the current stakeholder process.

II. The CAISO's Addendum Proposal revised the allocation of CRR deration so it no longer uses net settlement value and instead uses prevailing flow settlement only. The revision harms counterflow transactions and leads to an inequitable assignment of CRR deration. DC Energy recommends that settlement impacts be netted up to prevailing flow settlement. This would reduce the harm levied on counterflow and arrive at a more equitable deration methodology

a) The removal of counterflow credits in the Addendum Proposal means CRR deration shares are no longer able to net across a constraint. This leads to inequitable cost shifting between equivalent CRR portfolios: The Addendum Proposal would assign different deration shares to equivalent CRR portfolios. Tables 1 and 2 show a hypothetical example to illustrate this point. The first table shows each CRR pair's exposures to constraint(x), which establishes the CRR flows used in the example.

CRR Paths	CRR Shift Factor in the IFM on constraint(x)[3]	Flow impact of 100 MW CRR on constraint(x)
A → B	5%	5
A → C	20%	20
C → B	-15%	-15
C → E	-30%	-30
E → D	90%	90
D → B	-75%	-75

Table 1: CRR path impacts on oversold constraint(x)

Using these exposures, it is possible to measure the flows on constraint(x) for three portfolios of CRRs. Table 2 shows the settlement flows for each of these portfolios. All three portfolios contain different CRRs; however, they place the same net flows over

[3] "Shift factors" are commonly defined at the nodal level and specify the flow impact on a particular constraint from the combination of an injection at the stated node and a withdrawal at the Reference Bus. For purposes of this example, "shift factor" refers to the impact on a specific constraint of an injection at the CRR source and a withdrawal at the CRR sink (rather than the reference bus), and is equal to the difference between the nodal shift factors of the source and the sink nodes on a given constraint.

constraint(x). This is due to the transitive property of CRRs. In the example, this means Portfolio One with CRR A→B is equivalent to Portfolio Two with CRRs A→C and C→B and also equivalent to Portfolio Three which comprises CRRs A→C, C→E, E→D, D→B, and vice versa. The aggregate flow impact of each of the three portfolios on constraint(x) is 15 MW; however, when the CRRs in each portfolio settle, the value of constraint(x) is reduced to 5 MW. The simultaneous feasibility test is no longer satisfied and 10 MW is derated in order to maintain revenue adequacy.

CRR Portfolios (each CRR 100 MW)	Prevailing flow on constraint(x) (MW)	Counterflow on constraint(x) (MW)	Net flow on constraint(x) (MW)	Assigned offset under original proposal (MW)	Assigned offset under the Addendum Proposal (MW)
1: A->B	5	0	5	3.3	0.4
2: A->C, C->B	20	-15	5	3.3	1.5
3: A->C, C->E E->D, D->B	110	-105	5	3.3	8.1
Sum	135	-120	15	10	10

Table 2: Assignment of the 10MW deration to mathematically equivalent portfolios

Under the Original Proposal, the assignment of the 10 MW deration or "offset" is the same for all three portfolios, but this is not the case under the Addendum Proposal. The actual 10 MW derate is the same under both proposals; the only difference is how the 10 MW is allocated. This difference is due to the way counterflow settlement is treated. The Original Proposal nets counterflow and prevailing flow settlement on a constraint in order to determine the deration shares; whereas, the Addendum Proposal only considers prevailing flow settlement.[5] The Original Proposal's outcome is economically rational because each equivalent portfolio receives the same offset amount. This symmetry is not present in the Addendum Proposal, because Portfolios Two and Three contain counterflow settlement. For example, Portfolio Three places 110 MW of prevailing flow through segments A→C and E→ D and 105 MW of counterflow through segments C→E and D→B; yet, the impacts are not netted to 5 MW in the determination of its offset. Instead, the Addendum Proposal uses 110 MW to determine its offset share. Likewise, Portfolio Two is allocated shares based on 20 MW instead of 5 MW. This disparate treatment between equivalent portfolios exists to the degree counterflow

[5] The offsets are the foundation of the CRR deration cost assignment in both proposals. These offset amounts are applied to the Shadow Price of the oversold constraint to arrive at the deration cost. In the hypothetical example, the shadow price constraint(x) for the oversold constraint is assumed to be non-zero.

is not able to net with prevailing flow over an oversold constraint. This treatment disrupts the allocation parity for equivalent portfolios by shifting cost to portfolios with relatively more counterflow. In the example, it results in a subsidy from the counterflow providers to the CRR portfolio with prevailing flow only. It is not clear why the CAISO believes this is a more equitable allocation. To the contrary, the example clearly shows that netting is necessary to treat equivalent portfolios the same and, thus, maintain an equitable allocation design.

b) **The Addendum Proposal is harmful to desirable counterflow transactions**: Counterflow CRRs provide network capacity for the clearing of more CRRs. This increase to supply has the effect of serving more CRR demand at a lower cost than otherwise available without counterflow. Despite these benefits, the Addendum Proposal would disincentivize counterflow transactions by eliminating counterflow credits. Counterflow is fully funded at IFM settlement and pays out the full sink/source difference even when the corresponding prevailing flow settlement does not receive this full payment due to CRR deration. In the Addendum Proposal, the difference between the full target amount that counterflow settlement pays and the lesser amount prevailing settlement receives effectively reduces the deration amount assigned to holders of prevailing flow settlement. This is the cause of the cost shifting issue in the previous section. In the Original Proposal, the counterflow provider would receive this credit.

   Some entities on the May 18, 2018 CRR Track 1B web conference expressed the belief that counterflow credits are unfair because they represent a "windfall" to the counterflow provider. This view is misplaced. When counterflow clears the auction, it is paid according to the risk that the prevailing holder will be derated at CRR settlement. This inverse relationship means as derate risk increases, the counterflow provider is paid less in the CRR auction. The counterflow credit could be higher or lower than the realized discount in the auction price, but this potential is a function of deration expectations, and therefore cannot be viewed as a windfall. To the contrary, counterflow credits are needed so counterflow providers are not harmed. Without the credits, counterflow providers receive a lower auction price due to deration expectations, but yet payout in full to fund prevailing direction CRRs that are derated. This results in strong disincentives to provide counterflow because it subjects the counterflow provider to the lower auction price and the cost shifting issue. In order to reduce this harm, DC Energy recommends portfolio netting by constraint. Portfolio netting is different than providing stand-alone counterflow credits, as the CAISO proposed in its Original Proposal, because the credits would only offset up to the amount of the prevailing flow settlement. In essence, this would lower the offset share of any portfolio with both prevailing flow and counterflow exposures on the same constraint. Netting is compelling because it reflects the CRR participant's actual flow impact in the assignment of deration and resolves the cost shifting issue identified in the previous section. Futhermore, it is currently utilized in existing CRR processes. For example, the CRR Clawback Rule

uses net portfolio impacts to mitigate CRR payments influenced by related positions. DC Energy urges the CAISO to adopt the principle of netting in the assignment of CRR deration because it provides the most accurate view of CRR flow impacts.

III. The CAISO's Addendum Proposal seeks to use a very fine resolution for assigning deration and surplus paybacks. We recommend this resolution be revised to align with the practicalities of congestion management and preserve the value of CRRs without eroding the principle of 'by constraint' deration

The Addendum Proposal allocates deration and surplus paybacks by contingency and overloaded element pair**.** This means constraints that share the same overloaded element will be treated separately in the allocation methodology; yet, they could be related to the same congestion management. For example, for some intervals $constraint_{(xy)}$ is used to manage congestion for overloaded $element_{(y)}$ and then later that day or the next day $constraint_{(ay)}$ is used for overloaded $element_{(y)}$. The CAISO's choice might be of no consequence to the efficiency of congestion management; however, the decision would create separate constraint allocation buckets. This linking of equivalent congestion management options to deration settlement results in unintended consequences on CRR funding. Specifically, a common transmission element could be revenue sufficient, but the CAISO would still reduce the payment to a CRR holder if one of the contingency cases caused a shortfall and another caused a surplus. To remedy this issue the "k" contingency cases that share the same overloaded element should be grouped together in the allocation methodology. That way, constraints with common elements are joined together in the allocation of deration and surplus paybacks.

IV. CRR surpluses and deficiencies should be allocated in a way that recognizes the value of the CRR hedge without uplifting shortfall costs to Load Serving Entities

By definition a constraint level allocation of shortfall would directly assign all CRR shortfall. Therefore, at the end of any given period there can only be surplus congestion funding. DC Energy agrees with the CAISO's proposal that any constraint level surplus should be allocated back to those who were short paid on that constraint. DC Energy, however, disagrees with the proposed monthly closeout of the CRR Balancing Account. This prevents one month's constraint level surplus from funding another month's short pay due to an oversold constraint. It is not clear why the CAISO proposed to perform a monthly closeout, but this is contrary to the long-standing practice of the ERCOT, PJM, and SPP markets. The SPP and PJM closeout the CRR Balancing Account at the end of a 12-month planning period (June-May). In ERCOT the temporal closeout was replaced with a balancing account cap where accumulations exceeding $10 million dollars are returned to loads. These allocation practices are superior because they lead to hedges that payout closer to target payments while still ensuring shortfall is not uplifted to Load Serving Entities.

V. DC Energy reiterates the most equitable allocation of deration would be the New York ISOs model to derate based on causation:

At the April 10th, 2018 CRR Auction Efficiency Working Group meeting DC Energy presented its recommendation for the assignment CRR revenue inadequacy based on the New York ISO's ("NYISO's") policy of assigning shortfall at the constraint level to the transmission owners responsible for the outages that cause CRR shortfall. Transmission outage schedules have an important role in ensuring CRR revenue adequacy and in recognition of this the CAISO's Tariff contains outage submission requirements. Despite the requirements, transmission outage submission practices have not conformed to the Tariff and remain a major source of CRR revenue inadequacy.

"For outages subject to the 30-day submission requirement, about 57 percent of these outages were not submitted to the ISO in time. PG&E, SCE and SDG&E outages subject to the 30-day submission window were not received in time in about 50 percent, 65 percent and 70 percent of the time, respectively"[7]

"Through this detailed analysis, one common finding arose that leads to late or missed outages and constraints in the CRR auctions being the primary driver for revenue shortfalls and large net CRR payments to auction CRRs. In some cases, like January 2017, one single constraint missed being modelled in the annual and monthly auctions and as a result drove over 80 percent of the revenue shortfall and accounted for a significant portion of the large payout to auction CRR holders." [8]

This poor performance is a natural consequence of not having meaningful incentives to follow the outage submission requirements. The NYISO shortfall allocation methodology would provide incentives to schedule transmission outages in time for the CRR auction. This proposal would help preserve the value of the CRR hedge and assign shortfall to those who are responsible for the cost. DC Energy understands this option might involve a longer implementation schedule than the CAISO's current timeline for Track 1B and, therefore, DC Energy suggests this as a long-term recommendation to be considered with the more complex allocation proposals reserved for Track 2. The foundation of the NYISO policy is rooted in a 'by constraint' approach and DC Energy views Track 1B as a building block to implementing this recommendation. Also, the Track 1B framework could be utilized to assign CRR holders the residual shortfall that was not attributable to Transmission Owners. DC Energy requests the CAISO explicitly include this option for Track 2 or at a minimum explain why it should not be considered in light of its compelling benefits.

[7] CAISO CRR Auction Analysis Report at page at page 8
[8] CAISO CRR Auction Analysis Report at page at page 9

VI. DC Energy supports the Track 1B proposal to reduce the volume of capacity auctioned in the CRR processes

DC Energy supports the CAISO's proposal to lower the CRR capacity in the annual process by 65%. This would help alleviate limit expansions in the monthly auction, which inevitably lead to CRR revenue inadequacy. It would also reduce the instance of CRR revenue inadequacy, thus, helping to alleviate the negative impacts of derating CRRs in the first place. The proposed reduction, however, comes with a tradeoff because less capacity will be offered for long-term hedges in the annual process.

With CRR balancing auctions, the CAISO does not need to sacrifice long-term hedging opportunities in order to achieve its goals. Balancing auctions, like those in the PJM, MISO, and NYISO markets, release CRR capacity on a more graduated scale and at more frequent intervals. This helps address the proposition of less hedges vs. reduced revenue inadequacy because there is more flexibility to strike the right balance. In addition, it would help rationalize CRR clearing prices, because all market participants would benefit from more up-to-date pricing and constraint information. Lastly, the more frequent price discovery could be utilized in the CAISO credit requirements by using the mark-to-market of CRR positions. DC Energy recognizes that this proposal would take more time to implement than is afforded under Track 1B, but urges the CAISO to consider it as part of the Track 2 CRR proposals.