

WMS: Permian Basin 5

ERCOT CRR Modeling Issue

(rescheduled and updated from 2/3 TAC)


February 9, 2011



DC Energy has become aware of a concern surrounding CRR awards at the Permian Basin 5 location

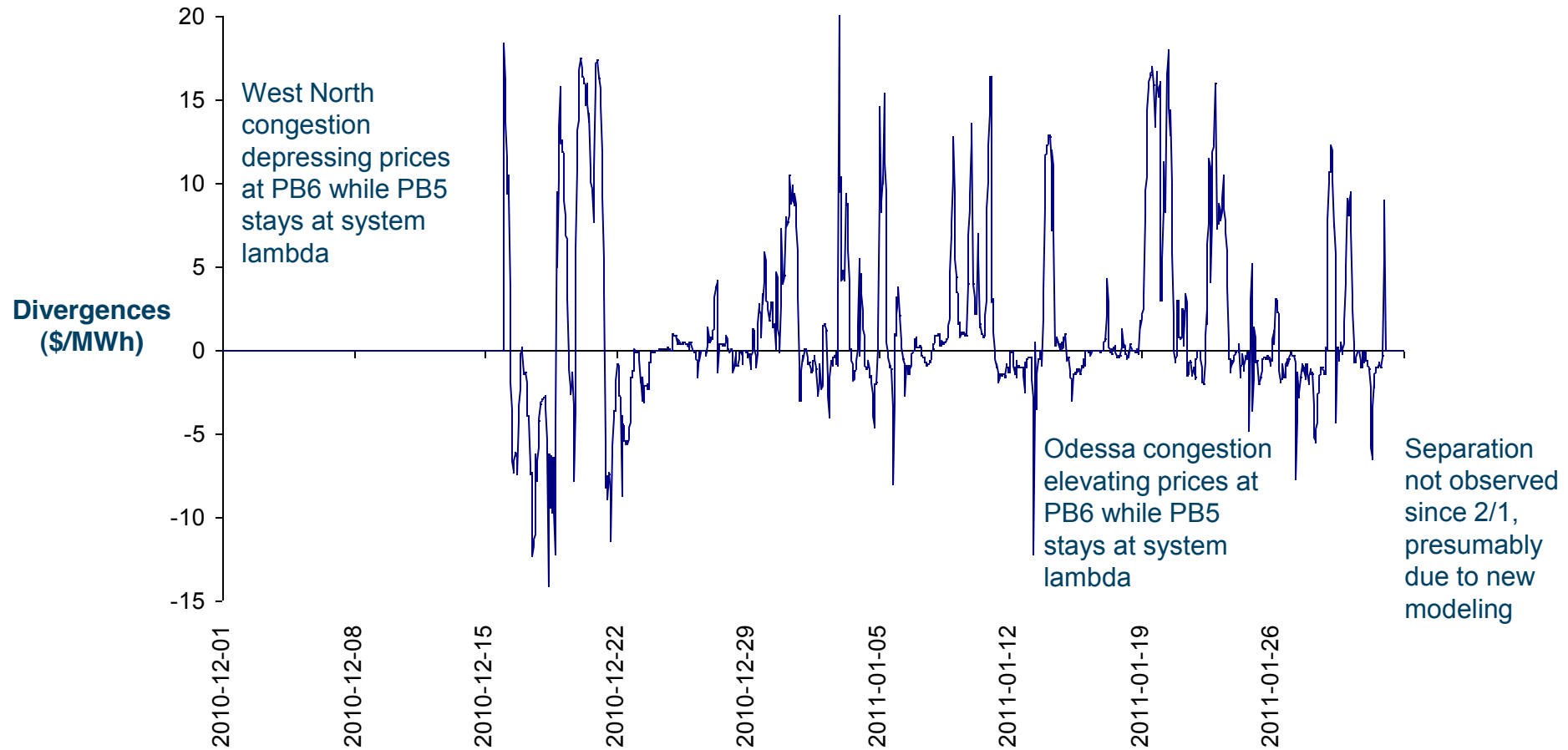
Permian Basin 5 CRR Issue

- **CRR holders have experienced substantial shortfall charges in January 2011**
 - Roughly 20%, without an obvious driver (e.g., major unplanned transmission outage)
- **Upon the clearing of the February CRR auction, we noted surprising cleared volumes on paths involving Permian Basin 5 (PB5)**
 - This prompted review of the relevant bus/facility, which we found was retired on 12/1/10
- **We observed a pricing artifact caused by SPP calculation at de-energized buses**
 - Since mid-December, DAM SPPs at PB5 have diverged from similar locations (e.g. PB6)
 - On post-auction review, we see that this is not caused by congestion moving the PB5 price, but rather by PB5's price being set by system lambda [NP 4.5.1(9)(c)]
 - Awarded auction volumes here force payouts to those CRR holders, likely contributing to revenue inadequacy market-wide, which would have worsened in February if not corrected
 - DAM modeling change 2/1 appears to have halted this problem for the time being
- **Per PUCT rule §25.503(f)(12), we are sharing our observations of this inefficiency**
 - “A market participant . . . who identifies a provision in the ERCOT procedures that produces an outcome inconsistent with the efficient and reliable operation of the ERCOT-administered markets shall call the provision to the attention of the appropriate ERCOT subcommittee.”
 - DC Energy believes that though market response to this price signal (the purchase of CRRs) was economically rational, it is an inefficiency which creates market uncertainty for holders of CRRs at all locations and should be thoroughly corrected going forward.

 Permian Basin 5 experienced a price artifact (as compared to its neighbor PB6) due to modeling at system lambda

PB6 to PB5 Path DA Divergences

– 12/1/2010 – 2/1/2011 –

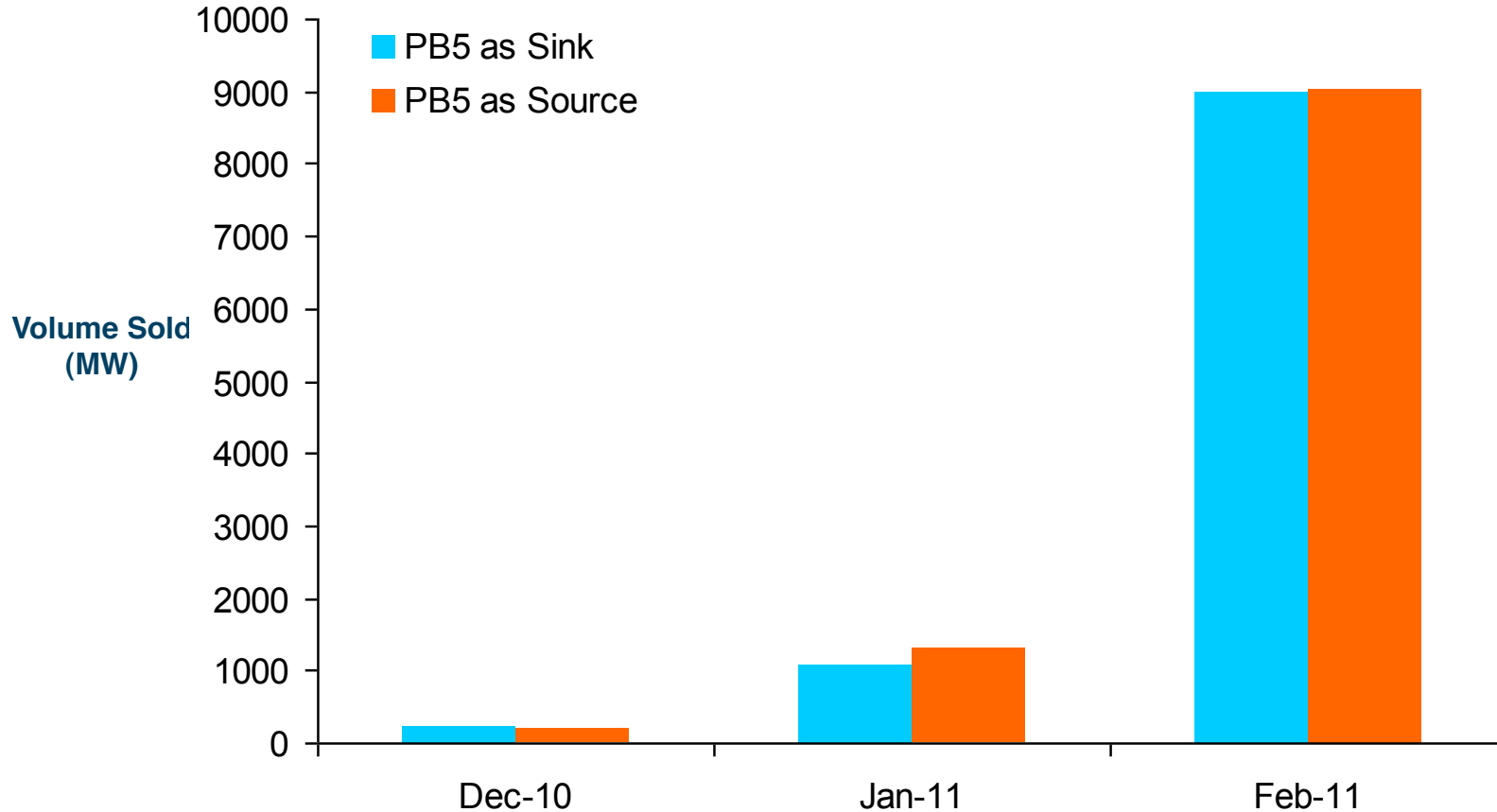




CRR auctions have sold increasing volumes on Permian Basin 5 across all Times-of-Use

Volume Sold on Permian Basin 5

– Dec 2010 - Feb 2011 PeakWD –



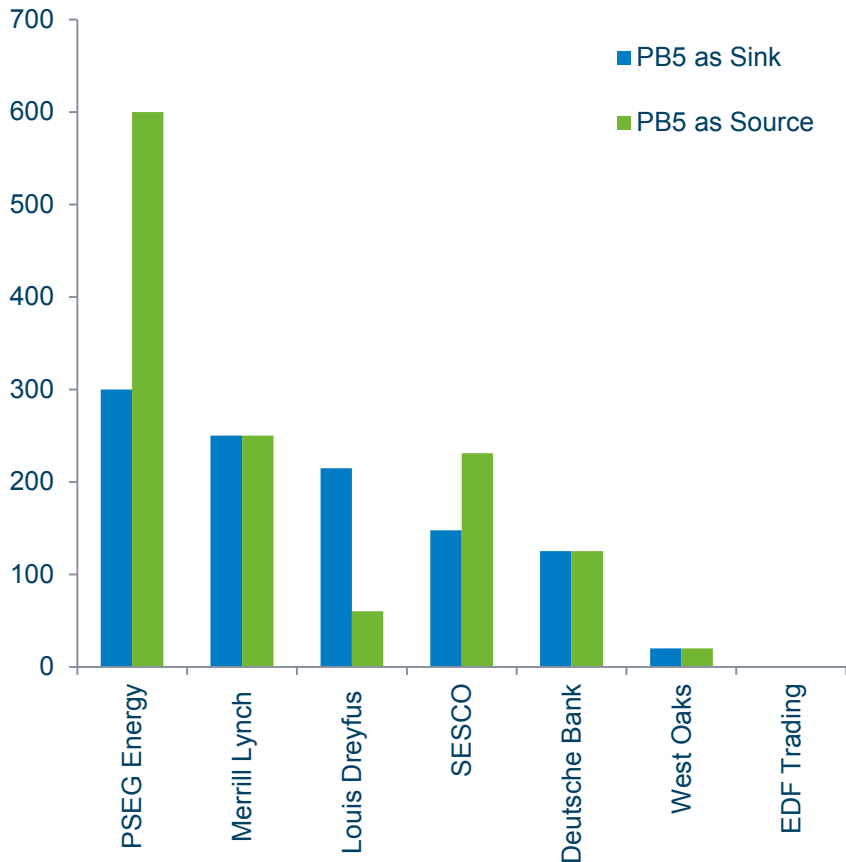


February clears are spread out across many participants, although like January, a few hold the large majority

Awarded CRR Auction Volumes on Permian Basin 5

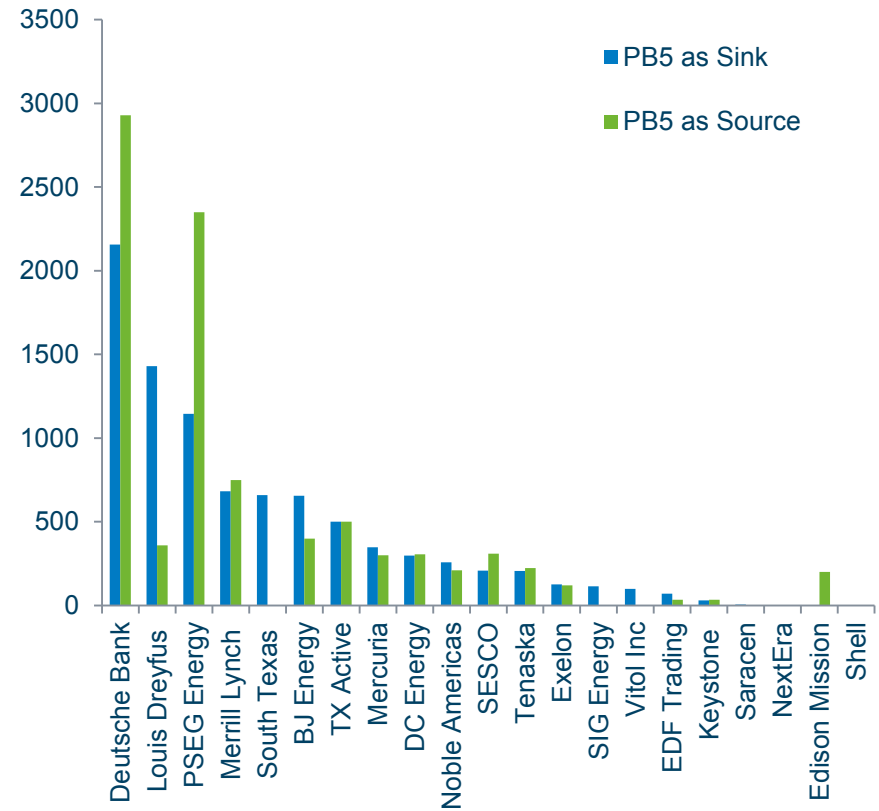
– Jan 2011–

Average Volume (MW)



– Feb 2011–

Average Volume (MW)

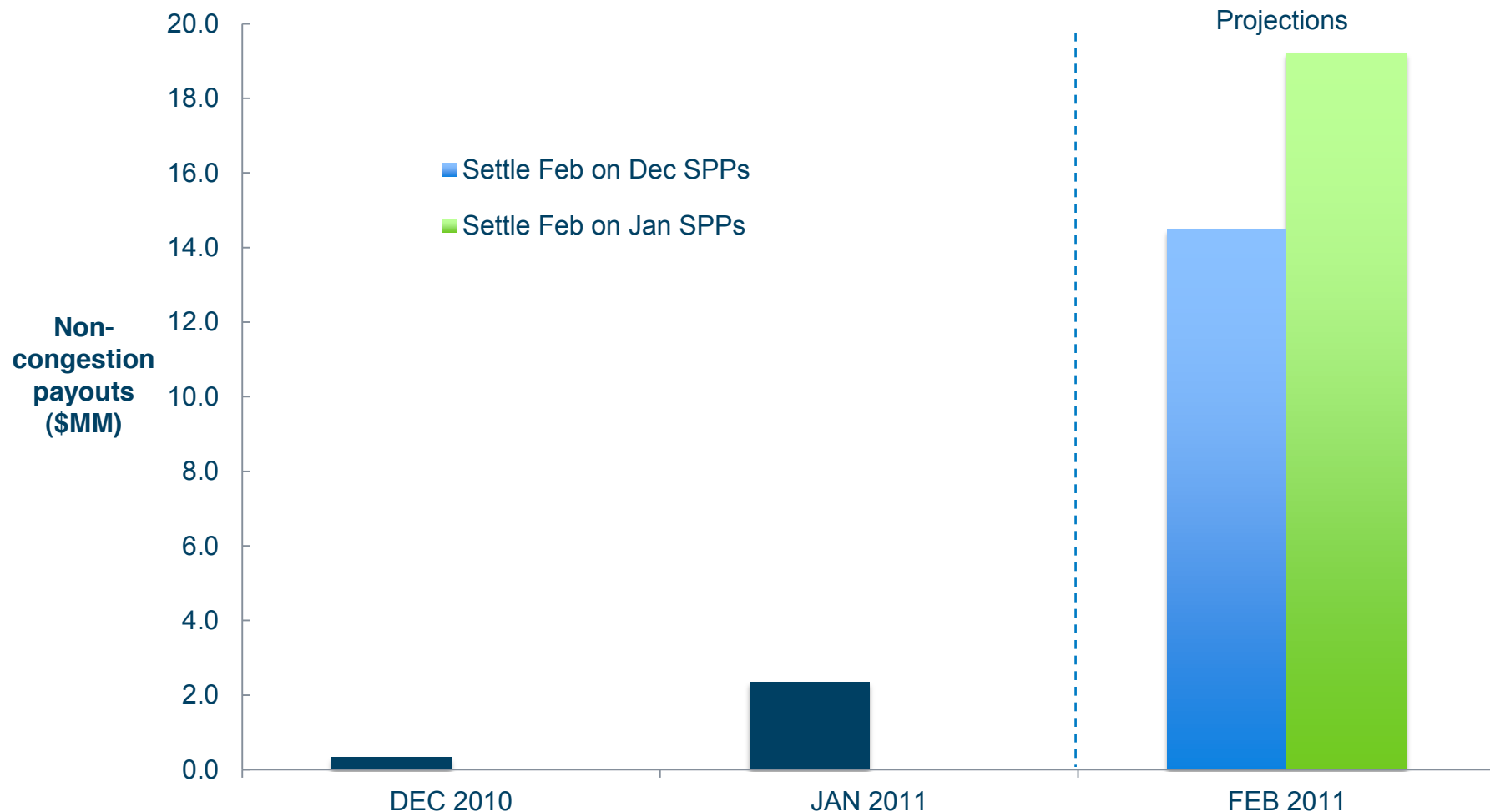


Note: The positions shown above are hourly weighted across all Times-of-Use (this is a minor revision from our previous presentation which only showed PeakWD). PCRRs not included.

PB5 mismodeling has resulted in significant non-congestion payouts to CRR participants; February stakes were high

Permian Basin 5 Non-congestion Payouts

– Dec 2010 – Feb 2011, all TOU –



Note: The market wide non-congestion payouts are approximated by looking at the difference in the actual payouts and those derived by replacing the Permian Basin 5 pricing with that of geographically nearby Permian Basin 6. February projections computed by using December/January SPPs to “settle” February CRR awards. PCRRs not included.

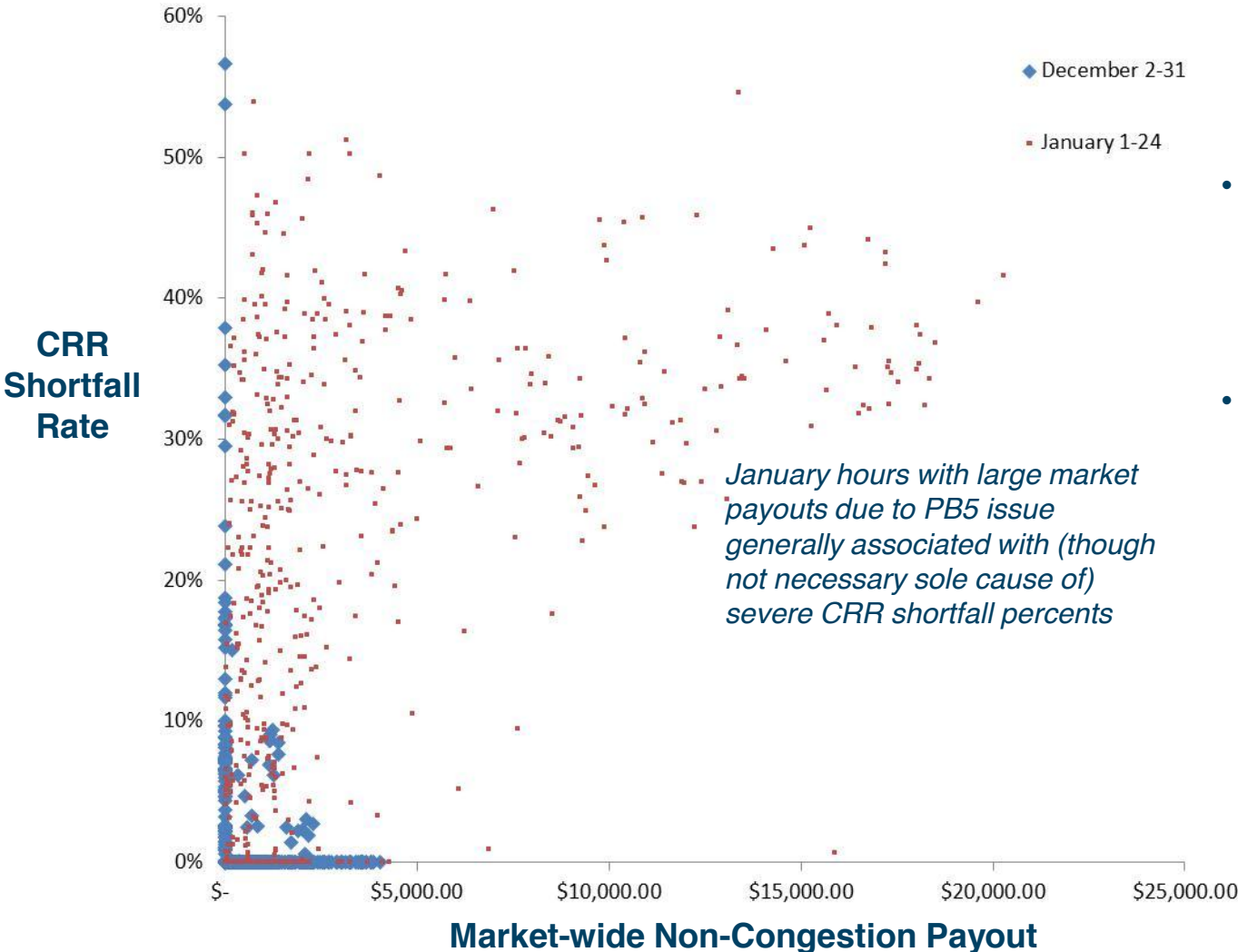


Hours where the market was receiving PB5 non-congestion payout were systematically high in terms of CRR shortfall

Hourly CRR Funding Impact

– December 2 – January 24, all TOU –

Estimate



Definitions

- **“Non-Congestion Payout”**
 - Incremental dollars paid out to all CRR auction awards due to selection of PB5 instead of PB6
 - Assumes PB5 “should” ~ PB6
- **CRR Shortfall Rate**
 - Computed using DC Energy’s observations; value should be similar for most CRRAHs
 - Numerator: shortfall charged
 - NP 7.9.3.3, DACRRSAMT and DACRRSRTAMT
 - Ignores refunds from CRR Balancing Account
 - Denominator: “Target” CRR settlement on positive paths
 - Ignores constraint-specific derations DAOBLDA [7.9.1.1(3)] and DAOPTDA [7.9.1.2(3)]



We suggest a number of actions to prevent similar occurrences in the future

DC Energy Proposals

– Permian Basin 5 CRR Modeling Issue –

- **Short-term: resolution of issues related to PB5**
 - DC Energy commends ERCOT’s swift action to halt underfunding issues going into February
 - Changes to the DAM model to introduce additional electrical buses seem to have stopped the PB5 price divergence which hopefully renders the issue moot for this month; CRR funding has improved markedly for the first two days of February
 - We observe that the source/sink file for the March auction also excludes PB5.
- **Mothballed/decommissioned unit locations should be generally removed from auctions**
 - Since units that are in mothball status require (at least) a 30-day notice to come back to service, they should be disallowed from the monthly CRR auctions
 - Permanently decommissioned units should be disallowed from all auctions
- **Longer-term goal: fix de-energized bus pricing logic to remove risk and inefficiency**
 - Question: will the modeling changes resolve **all** instances of a bus jumping to system lambda? If not, further steps might be warranted.
 - Even for a temporary de-energization (e.g. forced outage), moving a bus to system lambda will drive revenue inadequacy, as well as risk to obligation CRR holders at that location
 - We propose modification of this logic to introduce another fallback step (e.g. “price according to topologically closest energized bus”) before resorting to system lambda; may need NPRR
- **Can/should a “claw-back” make-whole CRRAs who experienced shortfall in December and January?**