

# **TAC: Permian Basin 5**

## **ERCOT CRR Modeling Issue**

**February 3, 2011**



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

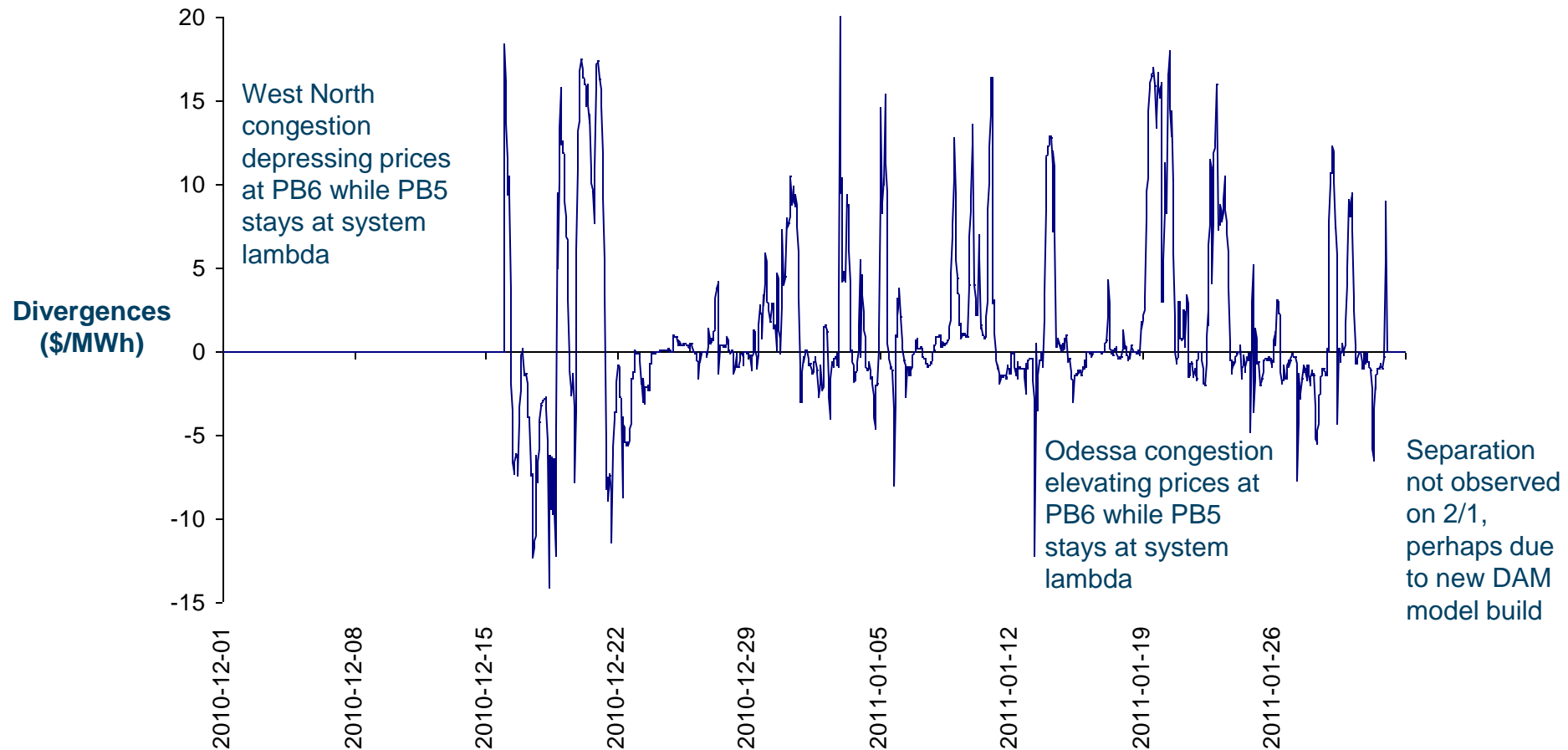
## Permian Basin 5 CRR Issue

- **CRR holders have experienced substantial shortfall charges in January 2011 DAM Settlement Statements**
  - As high as 21% underfunding through January 27
  - We could not identify 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 worsen in February if not corrected
- **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 even though market response to this price signal (the purchase of CRRs at relevant locations) is economically rational, it is an inefficiency which creates market uncertainty for holders of CRRs at all locations and should be corrected.

# Permian Basin 5 experiences a non-congestion 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 –

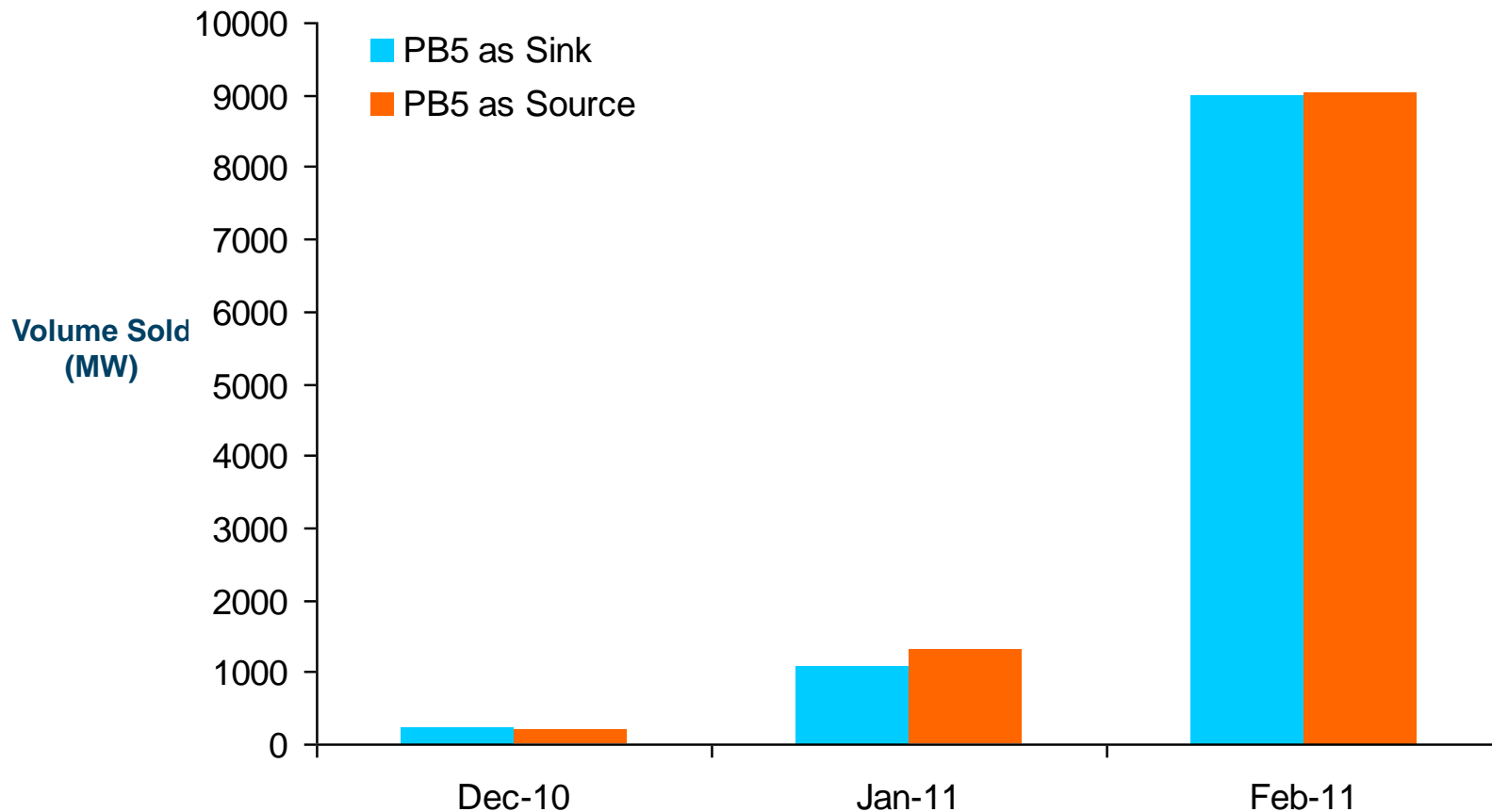




# CRR auctions have sold increasing volumes on Permian Basin 5 across all Times-of-Use

## Volume Sold on Permian Basin 5

– Dec 2010 - Feb 2011 PeakWD –

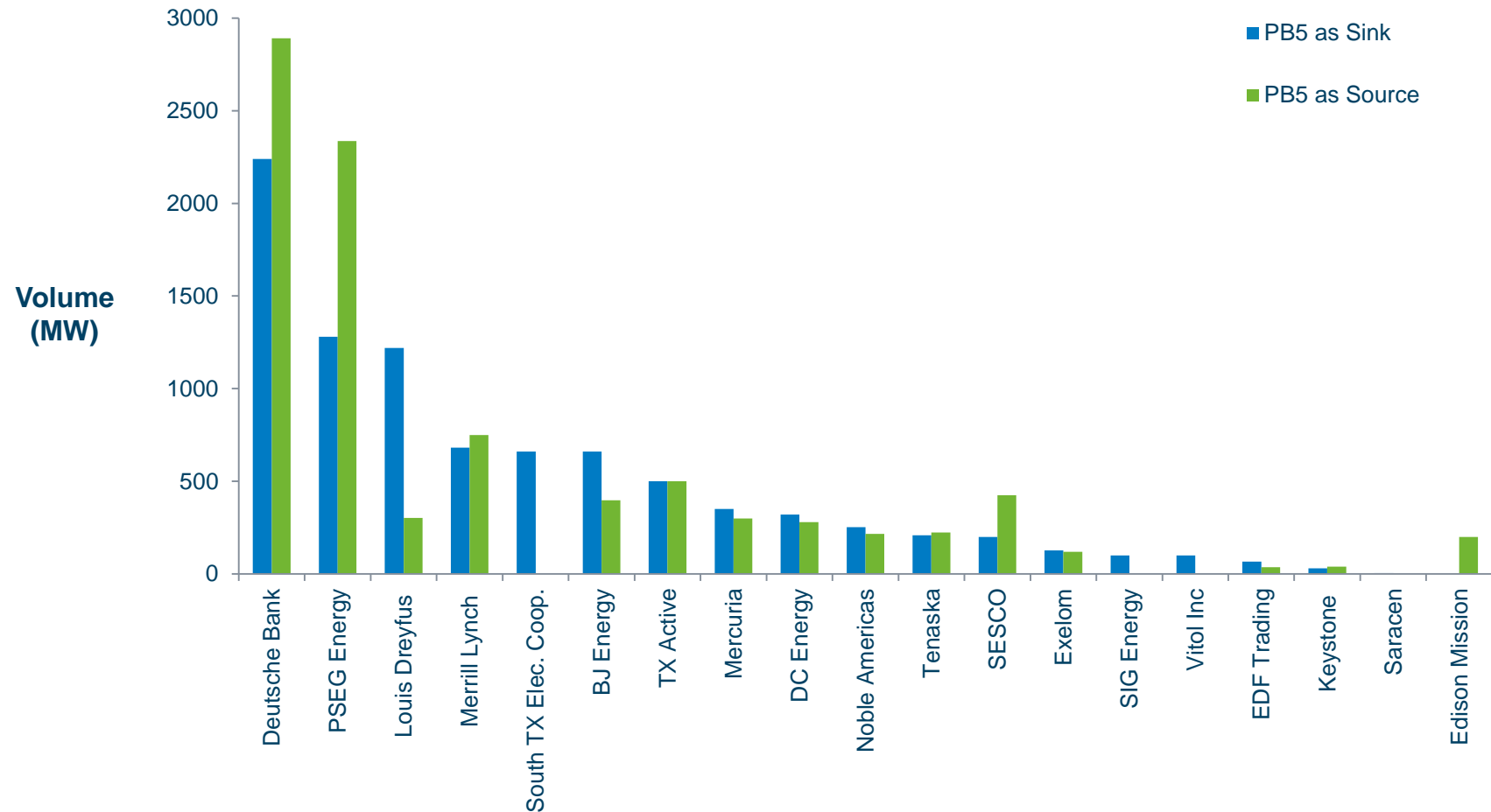




February clears are spread out across many participants but a few hold the large majority

## CRR Volume on Permian Basin 5

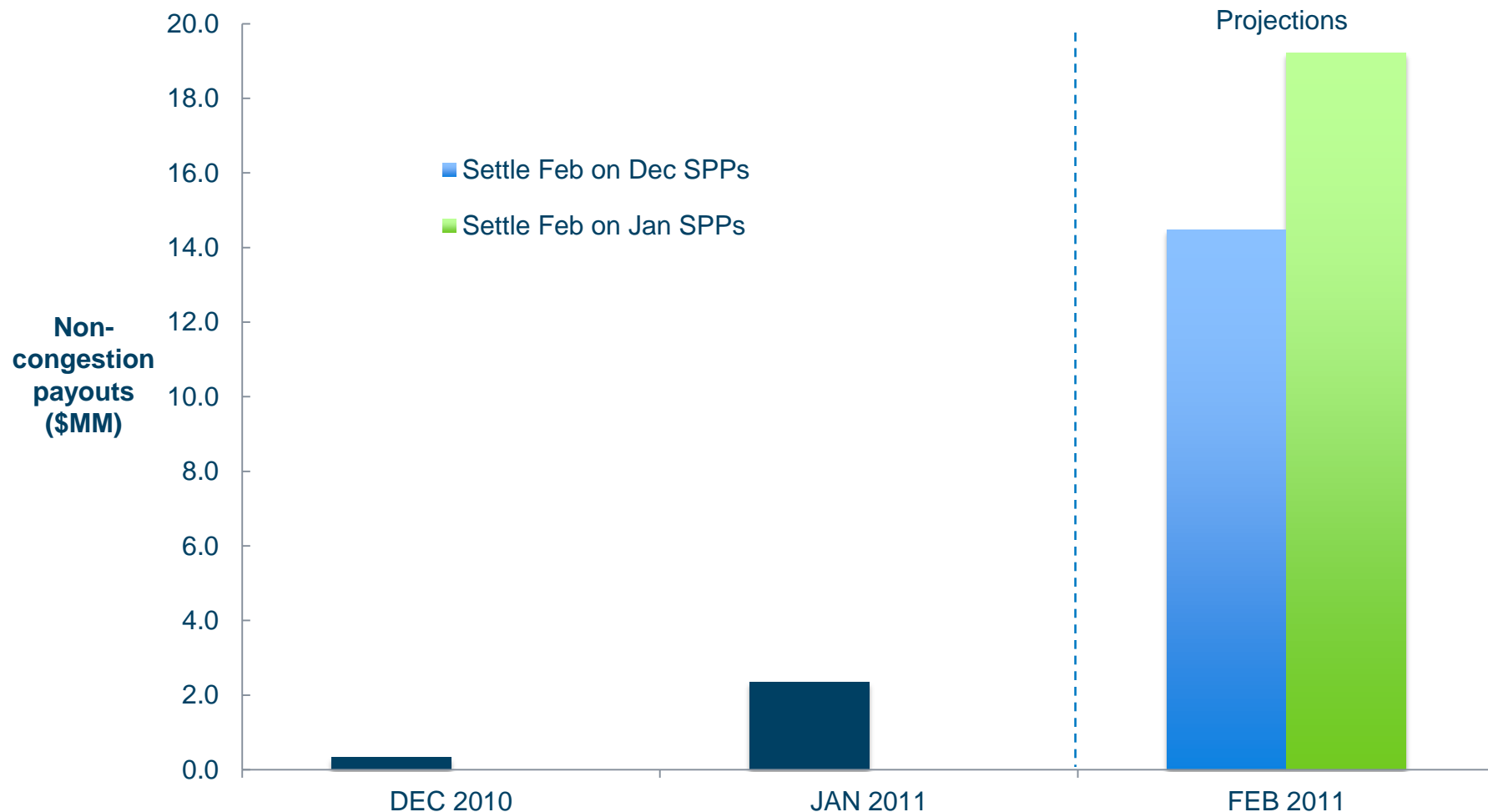
– Feb 2011, PeakWD –



# PB5 mismodeling has resulted in significant non-congestion payouts to CRR participants; if not fixed, February stakes are 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 is receiving PB5 non-congestion payout are systematically high in terms of CRR shortfall

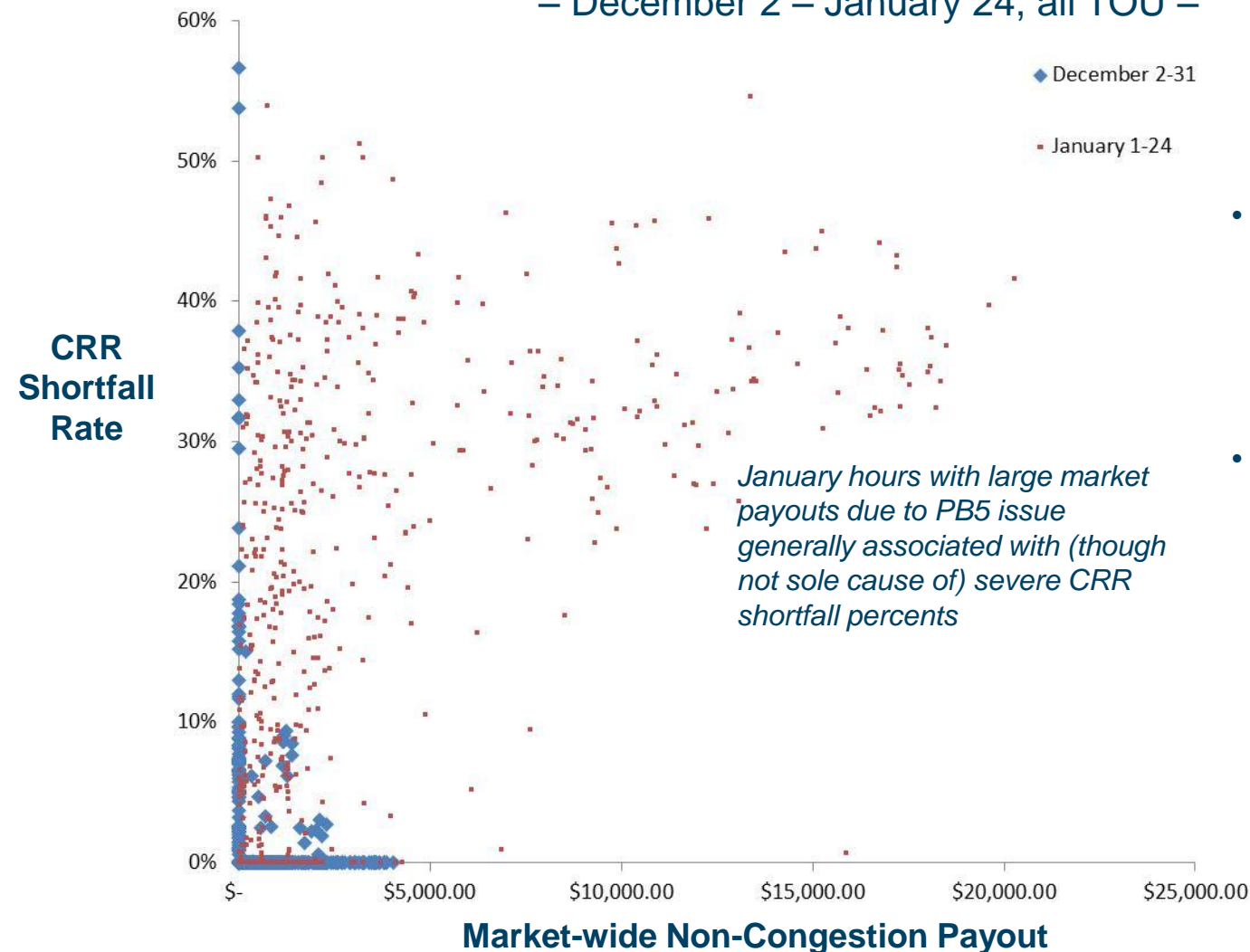
## Hourly CRR Funding Impact

– December 2 – January 24, all TOU –

Estimate

### Definitions

- **“Non-Congestion Payout”**
  - Extra dollars paid out to all CRR holders due to selection of PB5 instead of PB6
    - Assumes PB5 “should” ~ PB6
    - Ignores PCRRs
- **CRR Shortfall Rate**
  - Numerator: shortfall charged
    - NP 7.9.3.3, DACRRSMT and DACRRSRTMT
    - 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)]



Note: Shortfall values computed using DC Energy's DAM settlement statements; value should be similar for most CRRAs with positive-valued CRR portfolios.



We suggest a number of actions to stop the current PB5 issues and help prevent similar occurrences in the future

## **DC Energy Proposals**

– Permian Basin 5 CRR Modeling Issue –

- **Short-term: prospective resolution of issues related to PB5**
  - March CRR Auction: Seems best to render this location unbiddable in the CRR auction
    - Resolved? *Most recently posted source/sink file appears to exclude PB5.*
  - February DAM settlements: use of PB6 prices for the PB5 location, and/or re-energize it in the DAM to prevent system lambda pricing; will halt payouts and associated shortfall
    - Resolved? *DAM model change 2/1 which so far appears to remedy PB5/PB6 pricing gap*
- **A straightforward preventive measure: Mothballed/decommissioned unit locations should probably be removed from CRR 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 monthly & long-term auctions
- **Longer-term goal: fix de-energized bus pricing logic to remove a systemic source of risk and inefficiency**
  - Even for a temporary event (e.g. forced outage), moving a bus to system lambda can drive revenue inadequacy, as well as large 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” refund some CRRRAH shortfall in December/January?**