

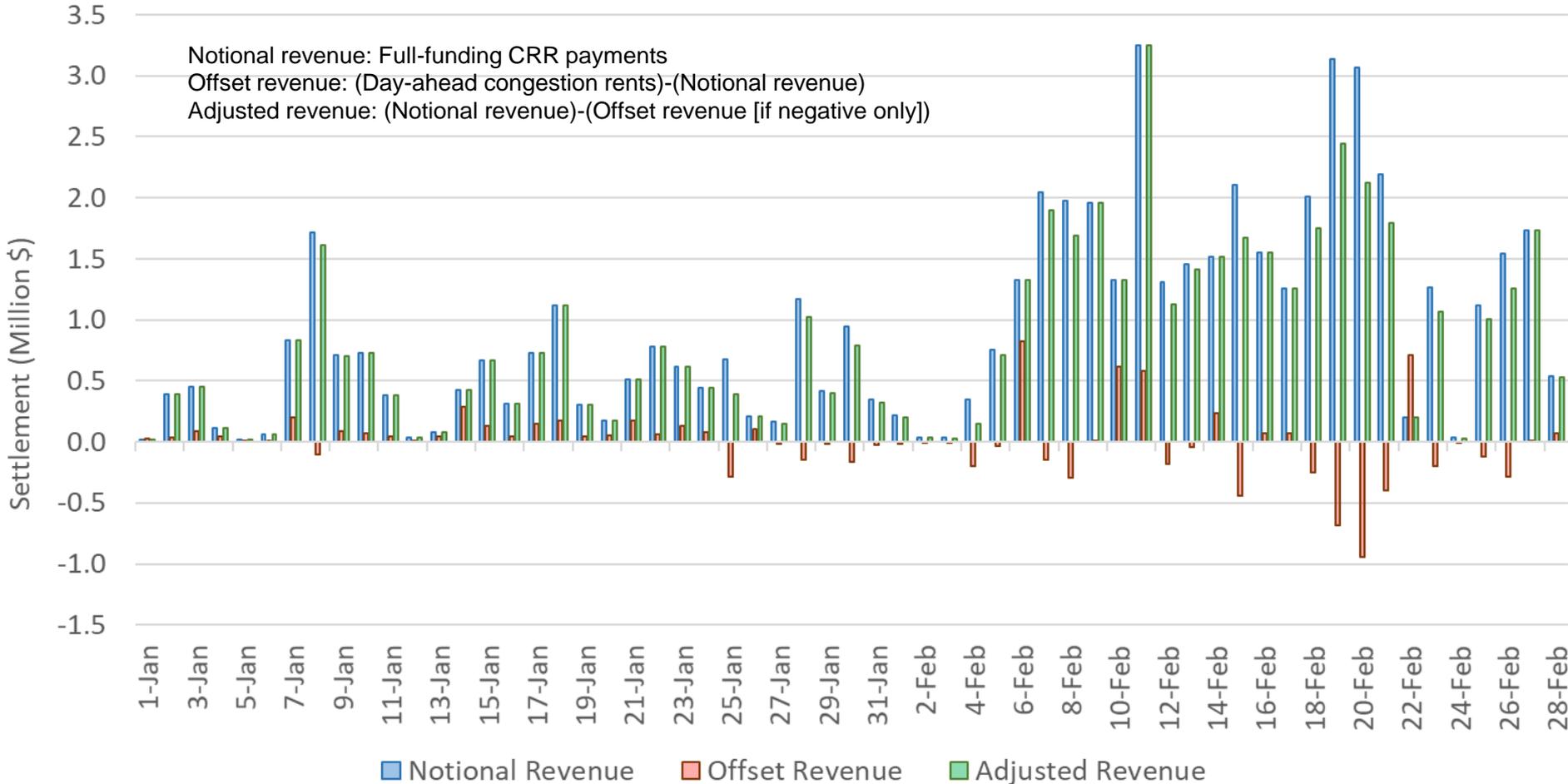


# CRR Market Analysis discussion

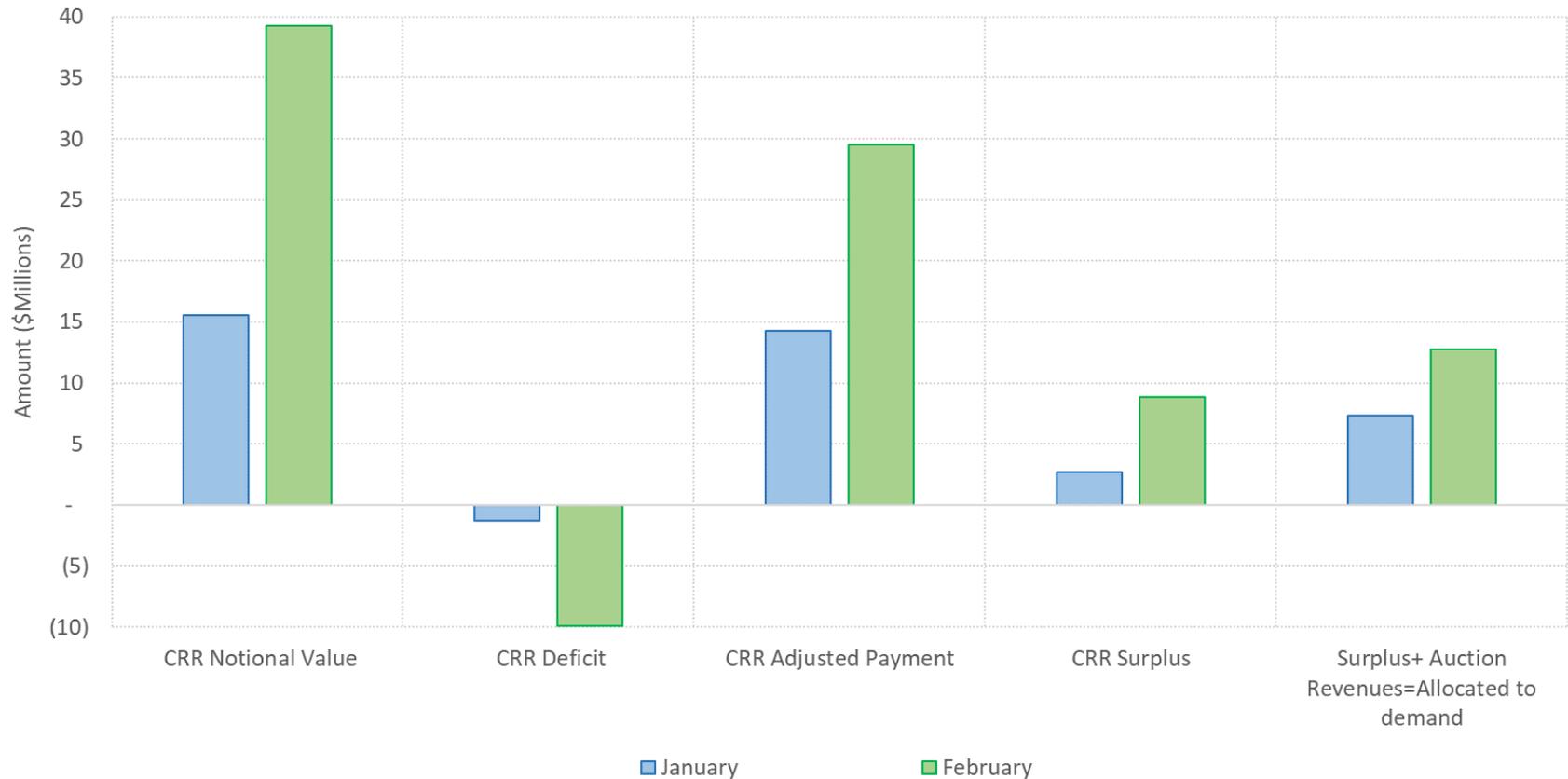
Guillermo Bautista Alderete, Ph.D.  
Director, Market Analysis & Forecasting

Market Surveillance Committee Meeting  
General Session  
April 4, 2019

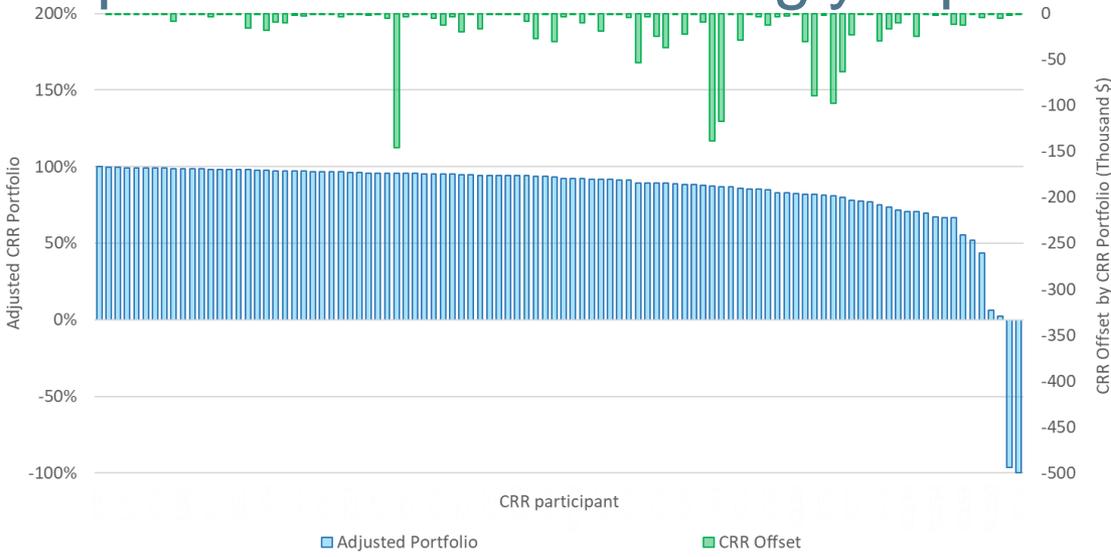
# Pro-rata funding logic for CRRs took effect in January 2019



# Higher congestion was observed in February as compared to January

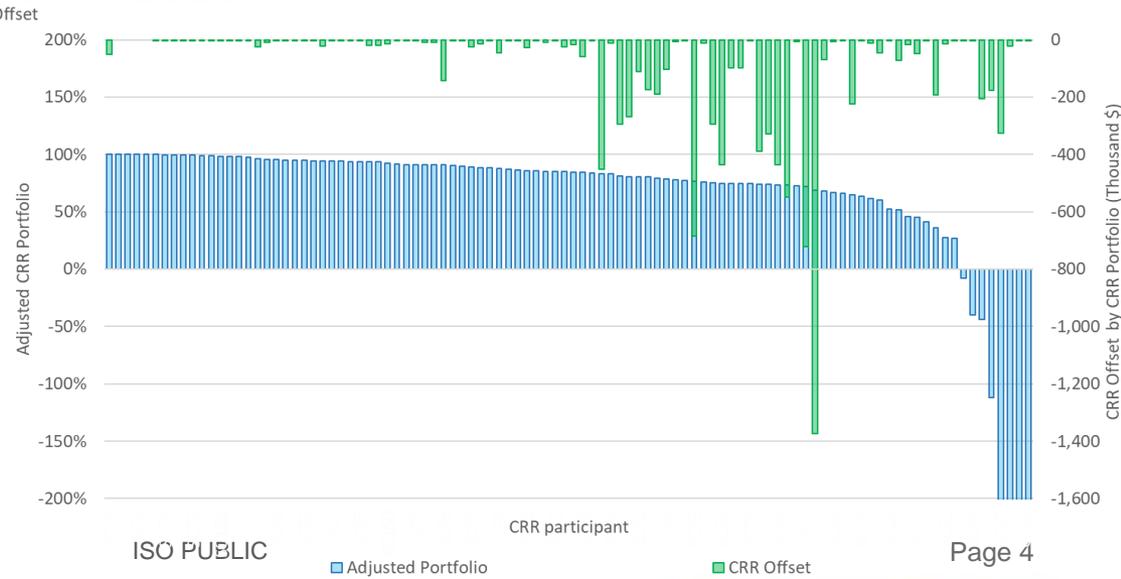


# Based on its contribution to deficiency, each CRR portfolio saw accordingly a pro-rata adjustment

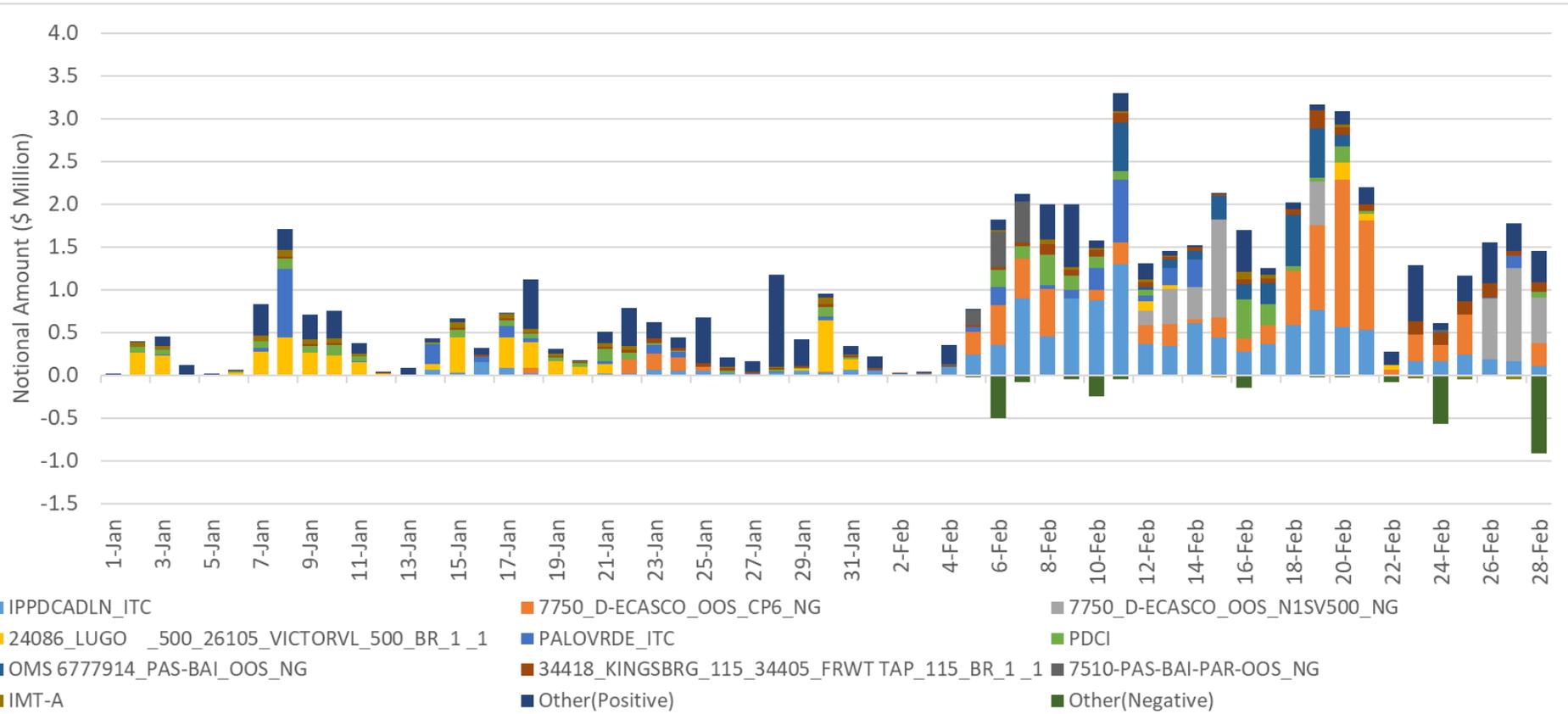


CRR portfolio adjustment for January

# CRR portfolio adjustment for February

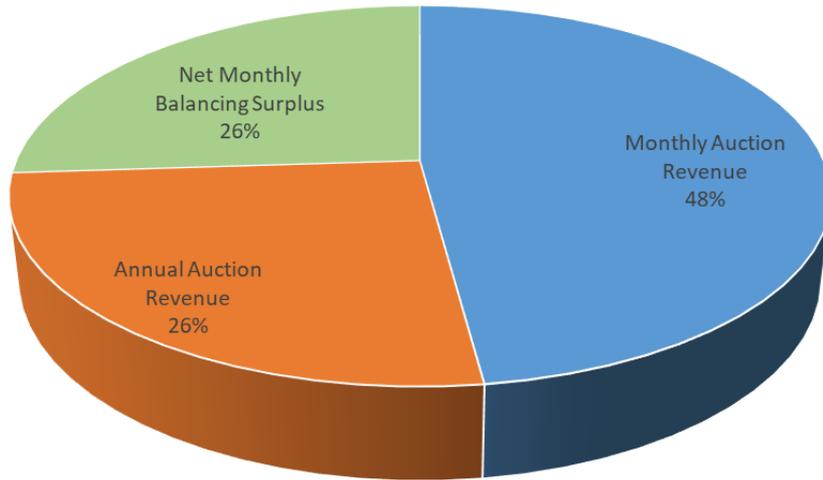


# CRR notional value is now estimated for each transmission constraint

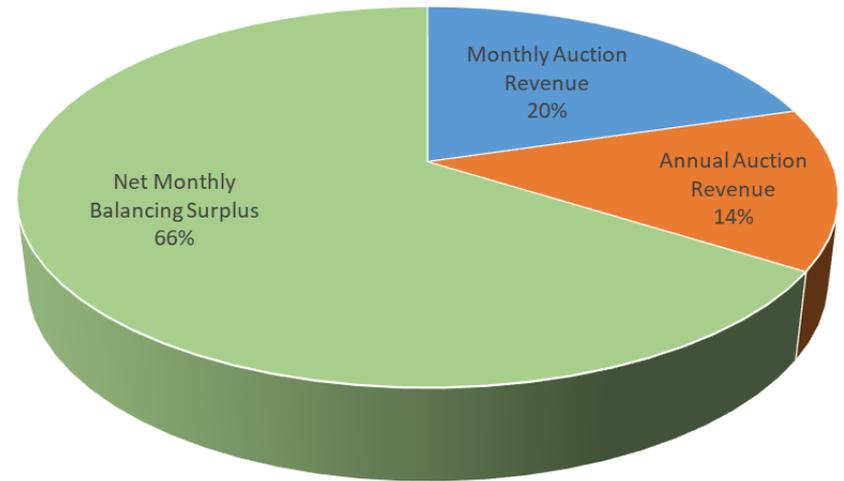


# Total CRR surplus includes both auction revenues and surplus offset, and all of that is allocated to measured demand

January - Balancing Account (~7.4 million)

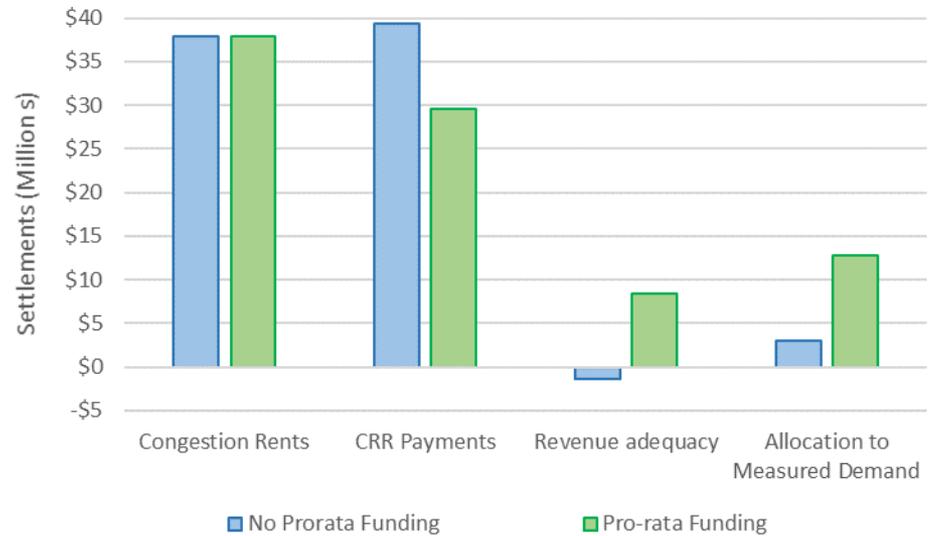
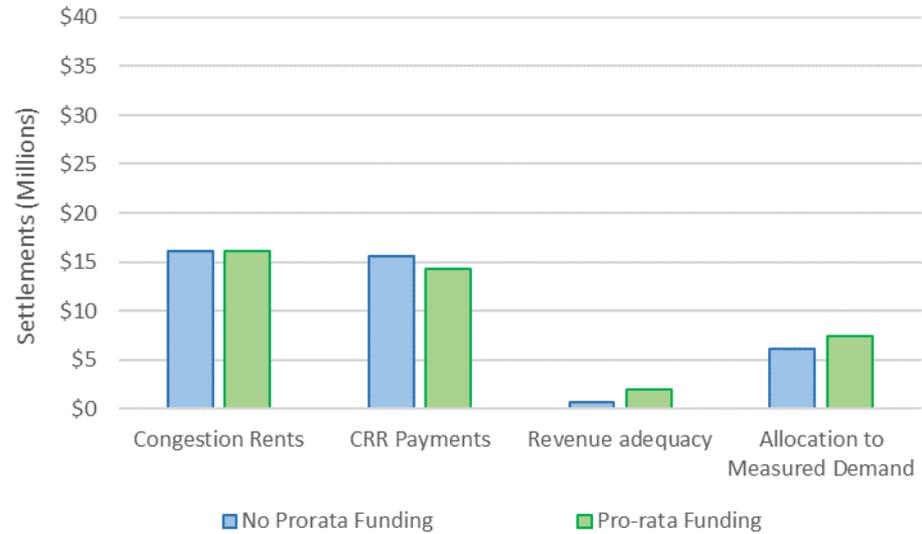


February - Total Balancing Account (~12million)

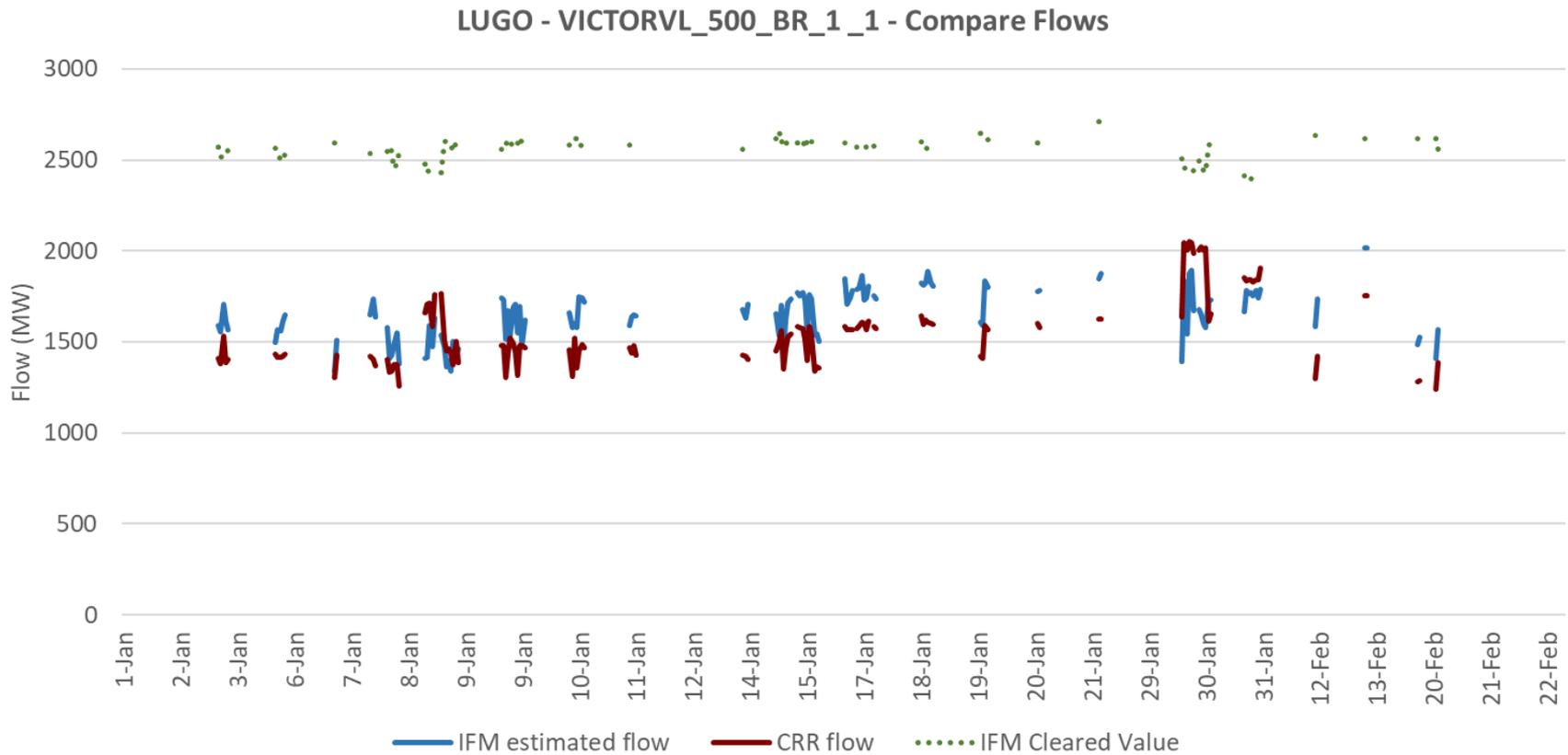


# Pro-rata funding tracks the CRR surplus separately

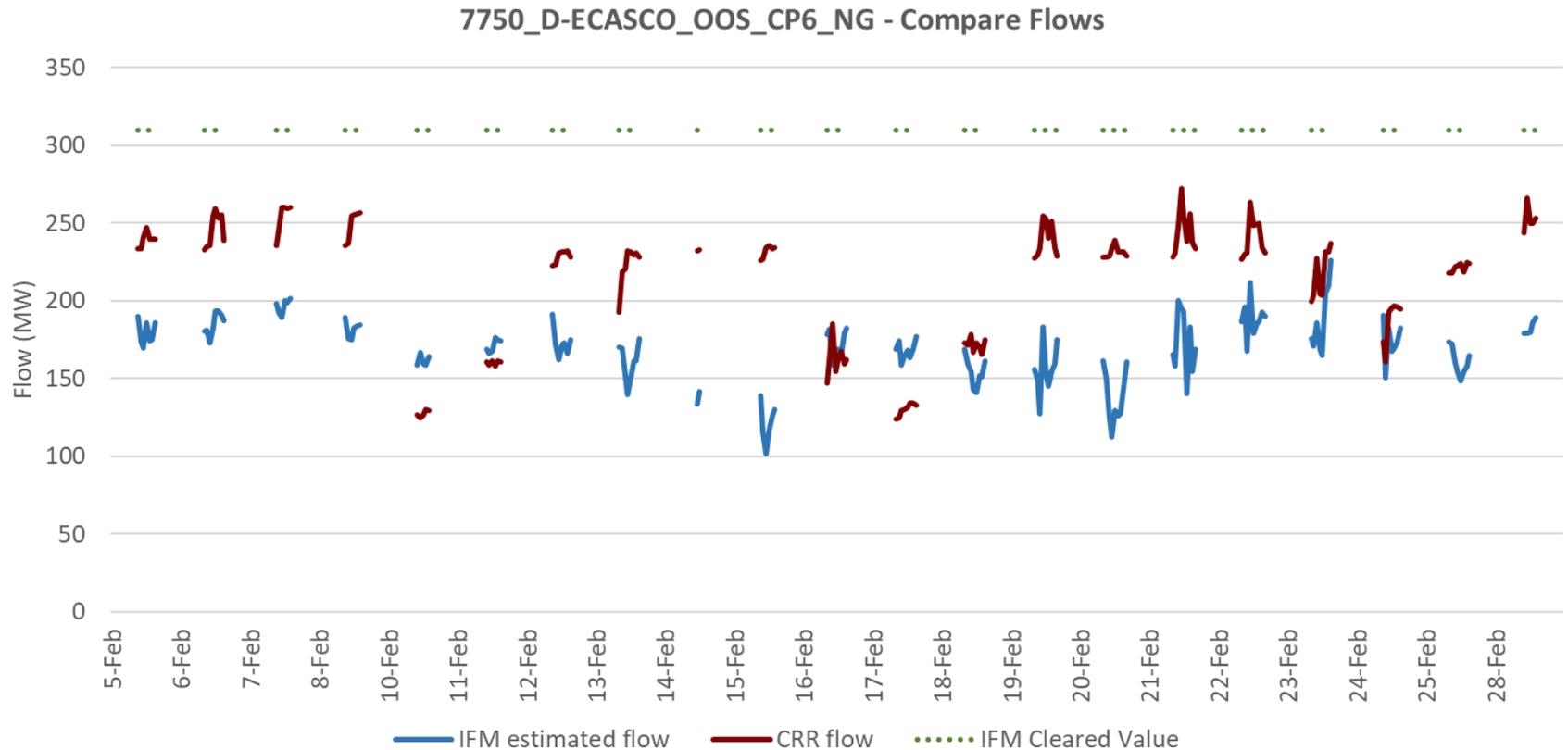
With the pro-rata funding in place, Measured Demand has gotten additional \$1.3 million and \$9.7 million of CRR surplus allocated in January and February.



# Day-ahead estimated flows, which accrue congestion rents, and CRR flows were both below the day-ahead cleared flow due largely to accounting for unscheduled flows



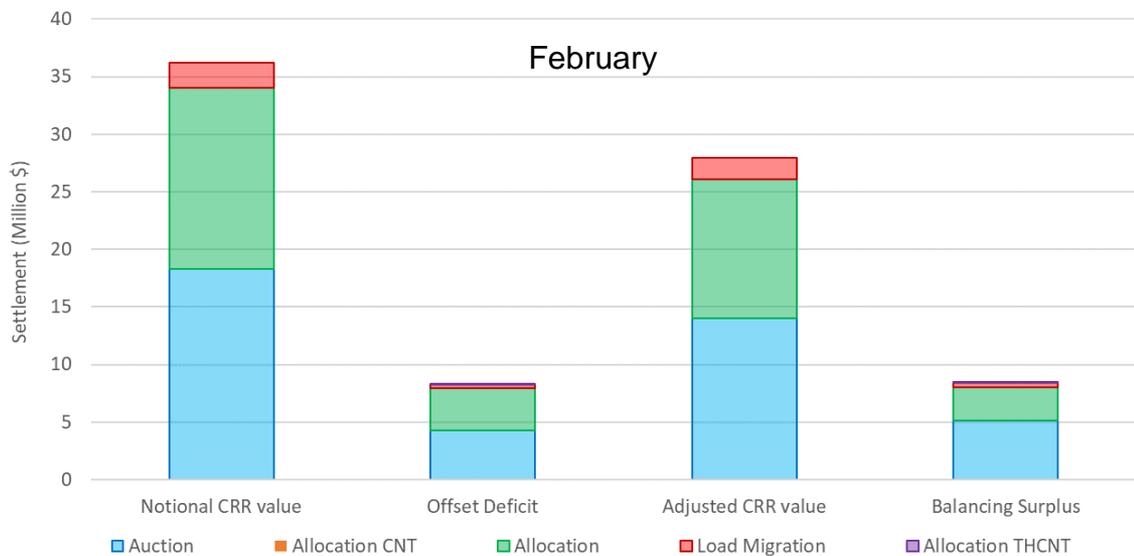
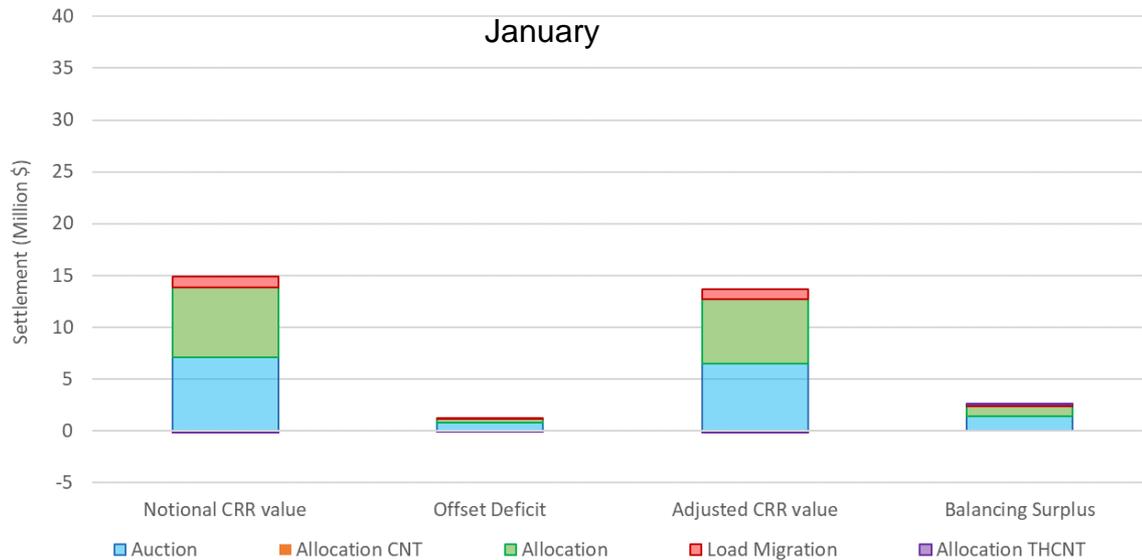
# 7750 D-ECASCO\_OOS\_CP6\_NG nomogram observed a CRR deficit due to more capacity being released in CRR market



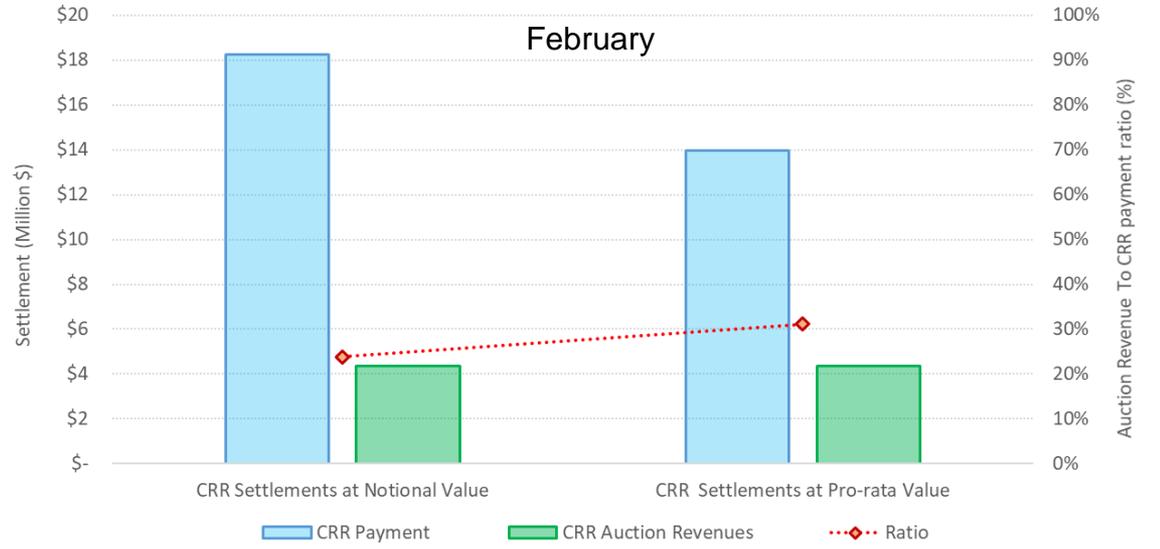
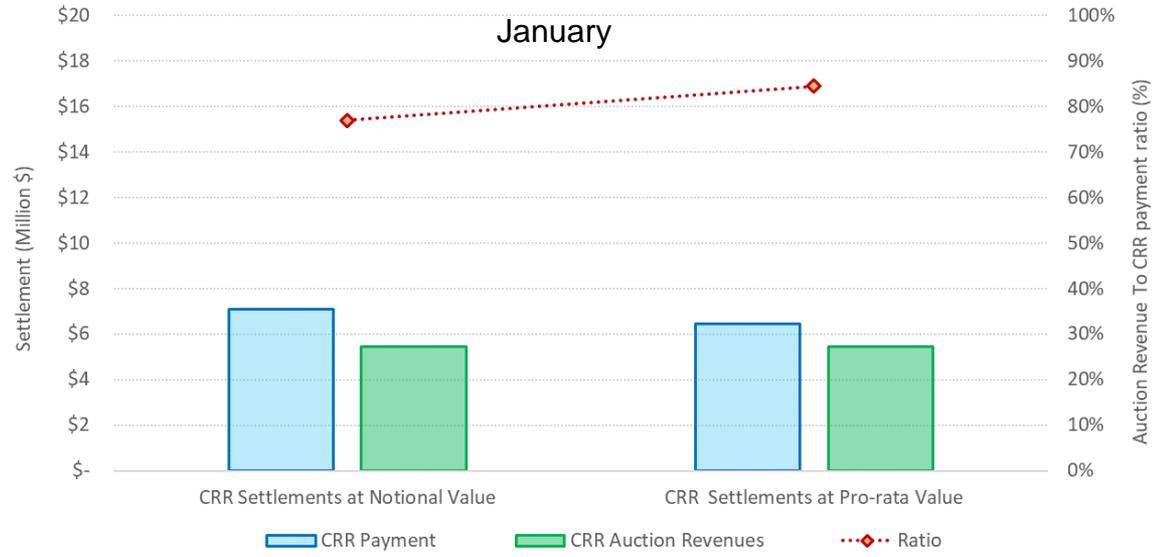
## CRR pro-rata funding logic is calculated at the CRR portfolio level

- New Settlements logic calculates and allocates offsets at the CRR portfolio level and by constraint
- For analysis purposes a logic to disaggregate the portfolio-level settlements into individual CRRs was developed
- This logic preserves the spirit of the pro-rata funding
- The metrics are based only on obligation CRRs
- Metrics based on available data and still subject to adjustments

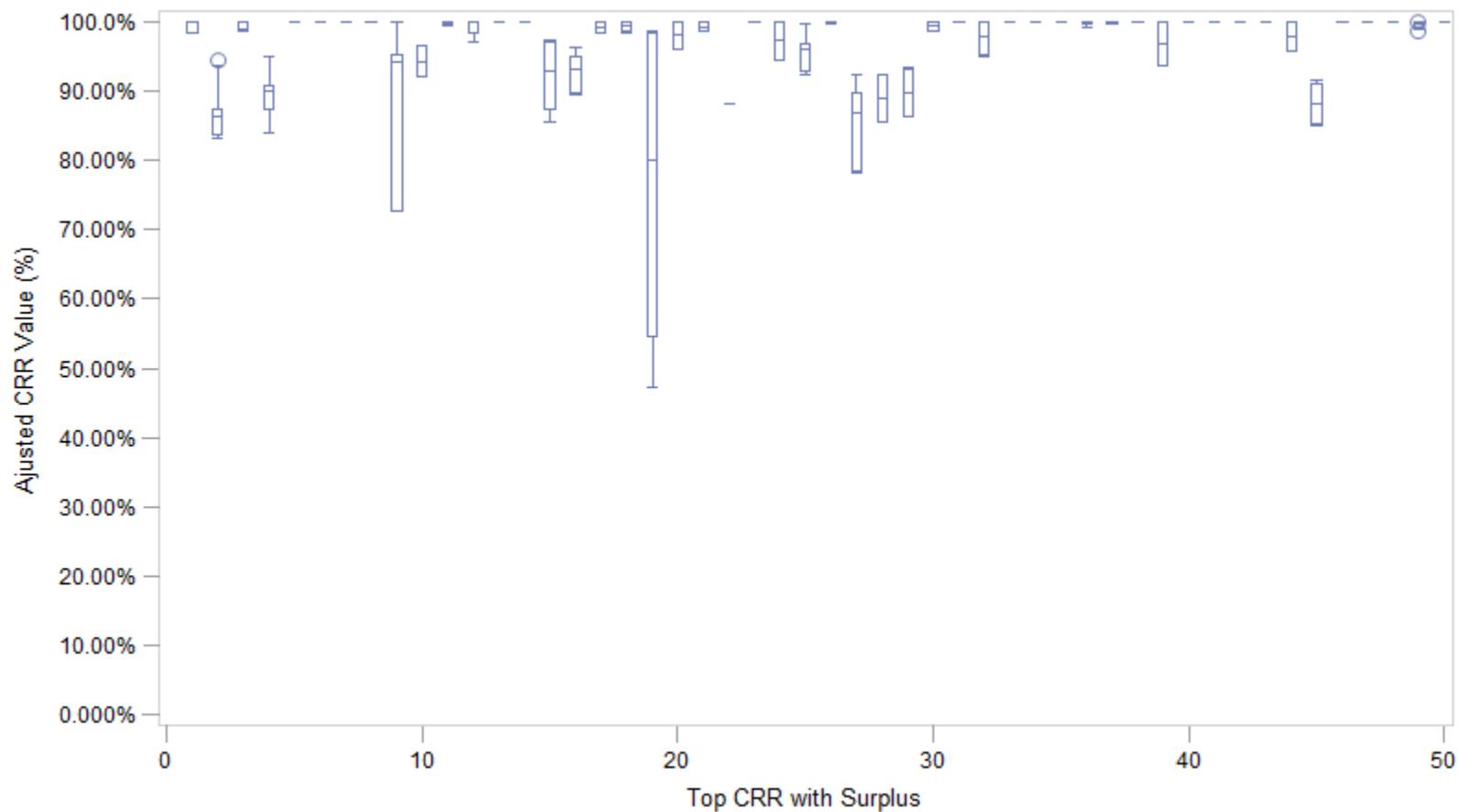
# CRR payments and offsets were evenly distributed between auction and allocation CRRs



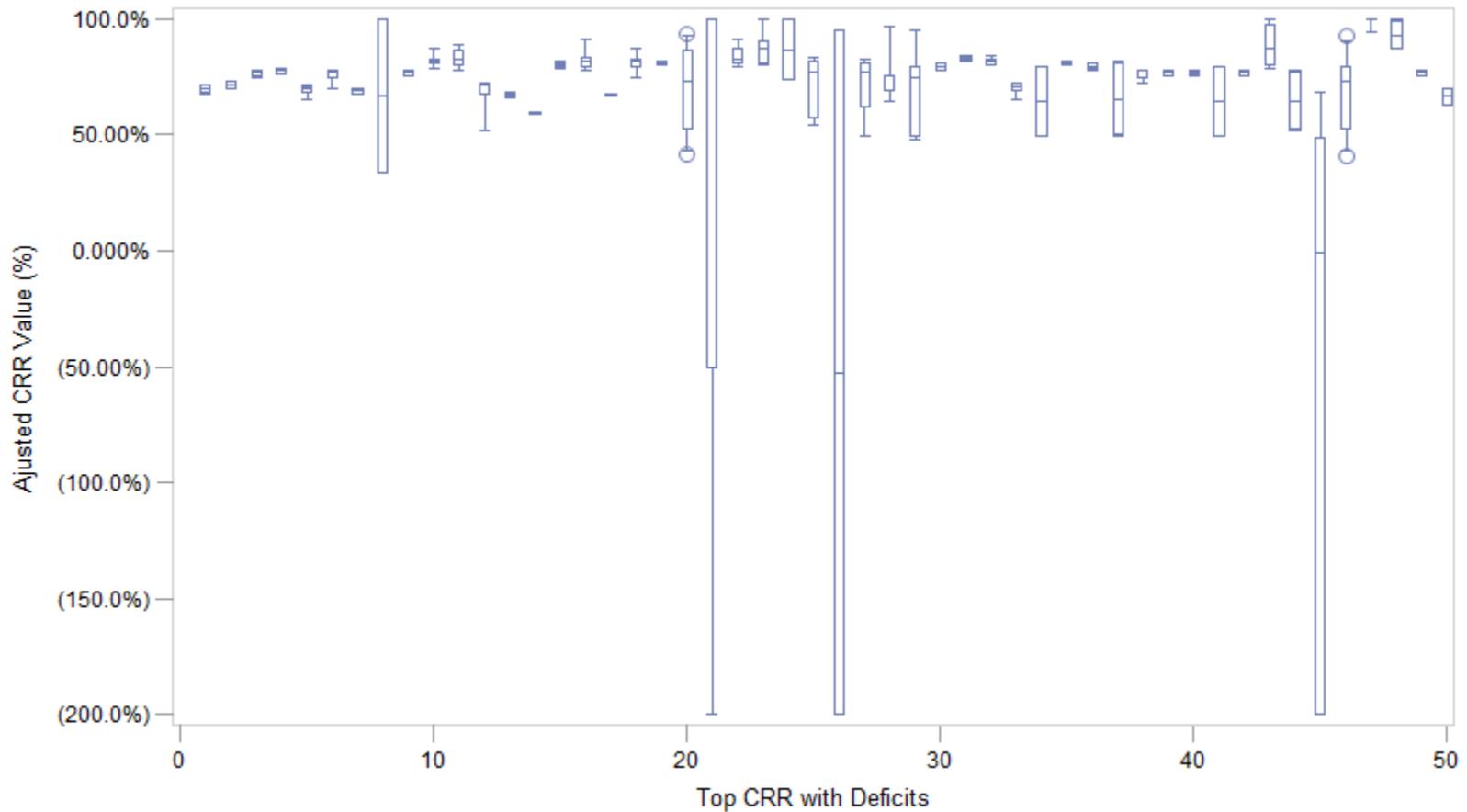
# Pro-rata funding modestly decreased the auction revenue shortfall



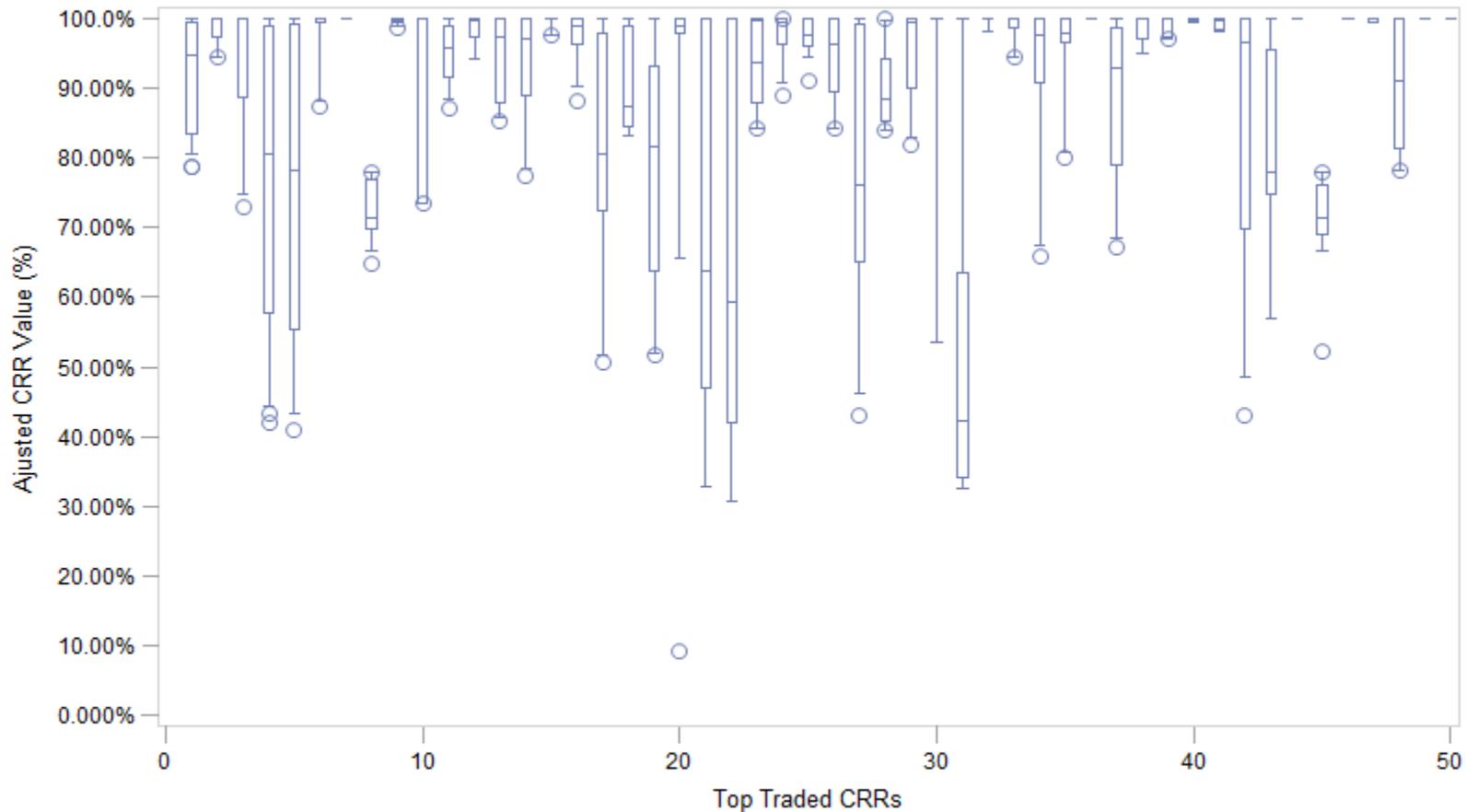
# Top CRRs with surplus offsets saw a relatively narrow spread of adjustments



# Top CRRs with deficit offsets saw a relatively narrow spread of adjustments

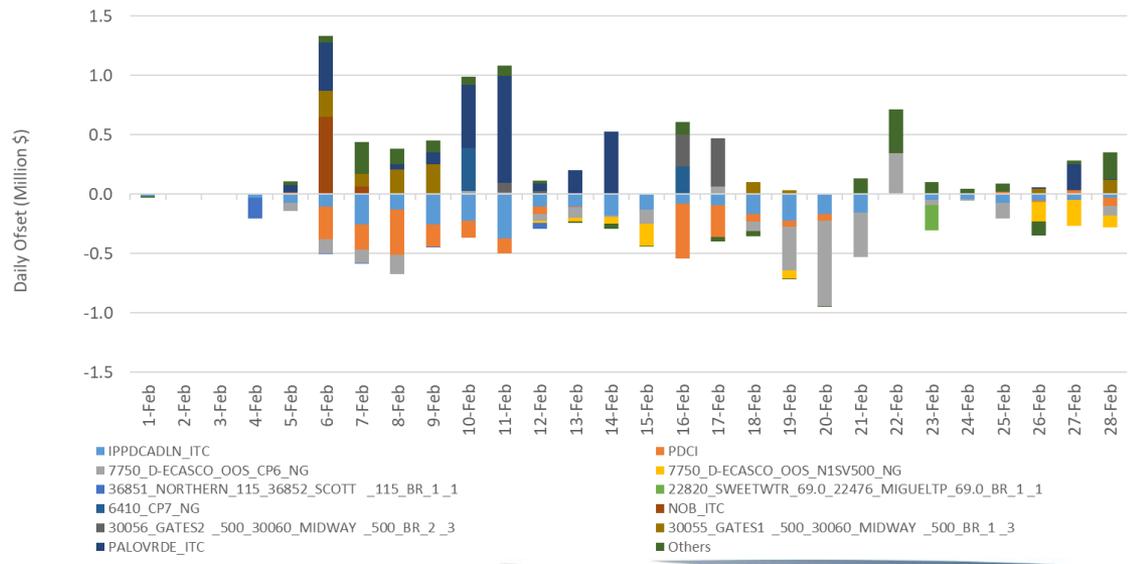
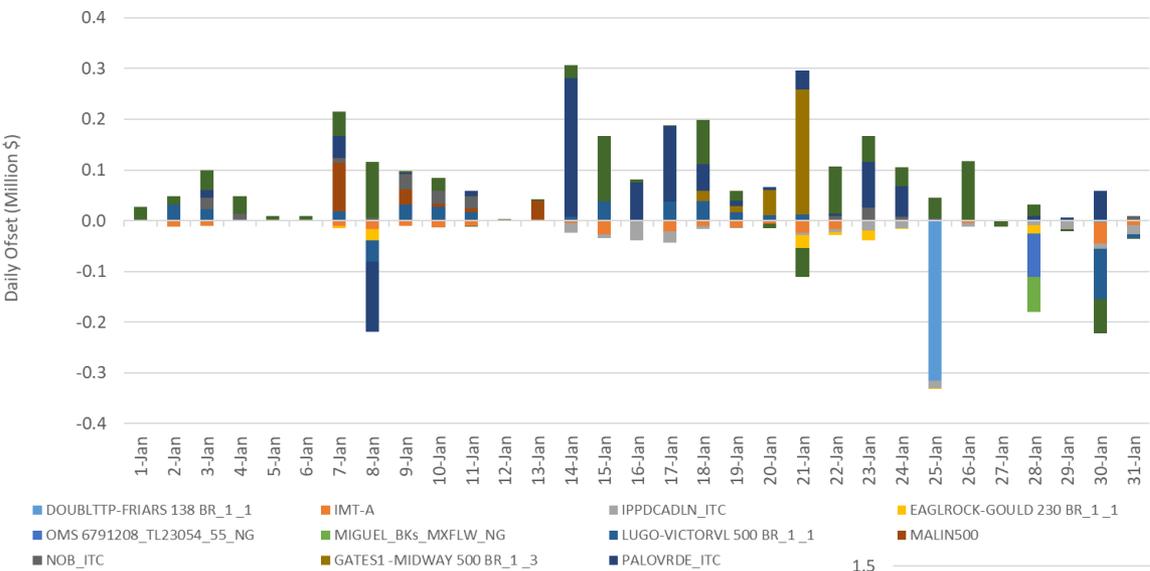


# The 50 most traded CRRs (auction and allocation) saw a large spread of adjustments

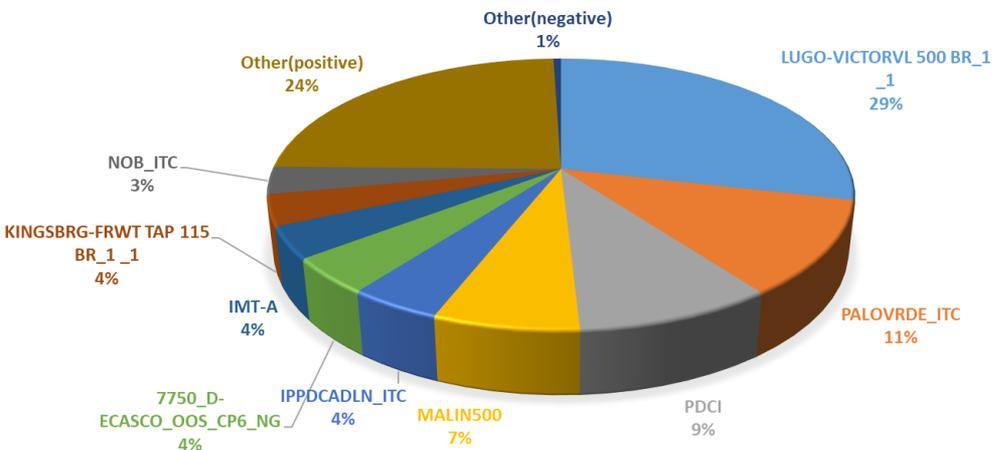


# Appendix

# CRR offsets (surplus and deficits) are tracked separately by constraint

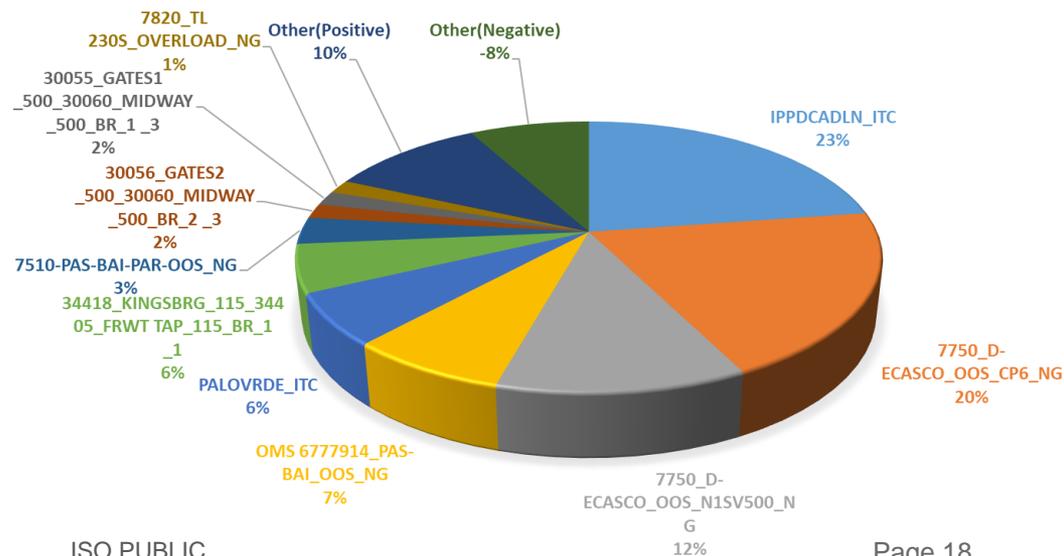


# Total CRR payment after pro-rata adjustments



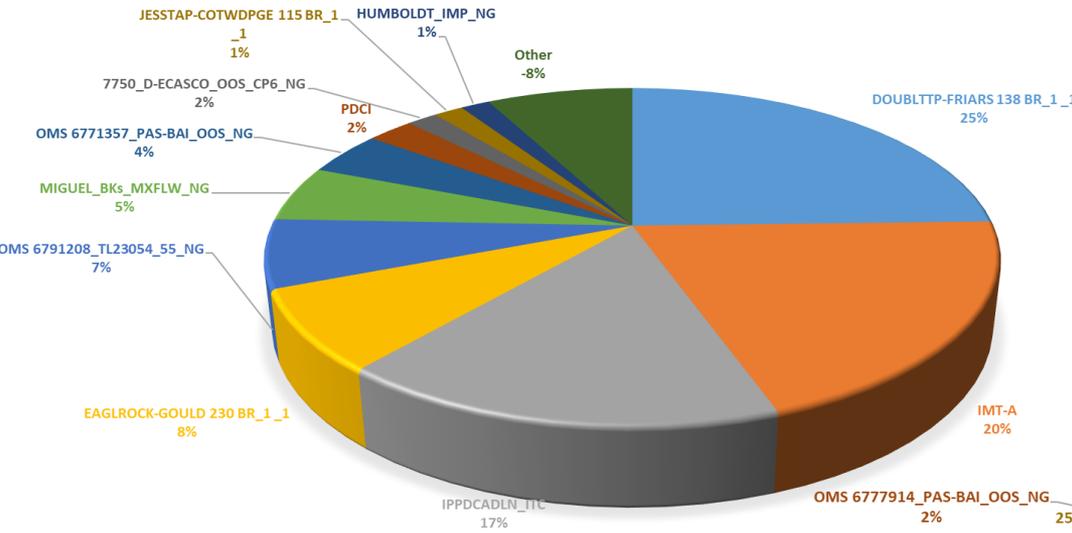
Total CRR Payment for January was approximately \$14 million

Total CRR Payment for February was approximately \$29.5 million

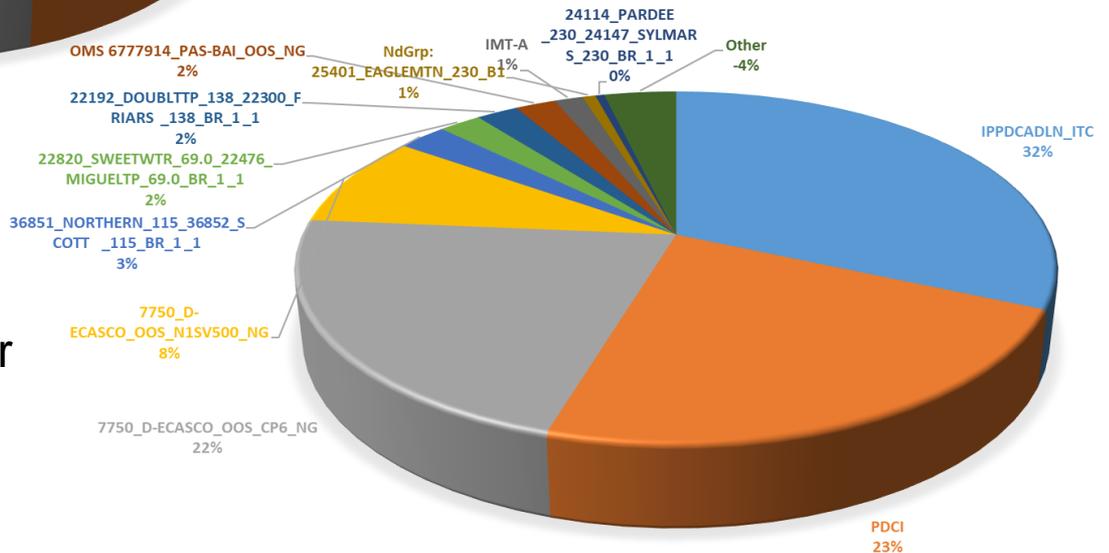


# CRR deficit is pro-rata allocated by constraint to all impactful CRRs

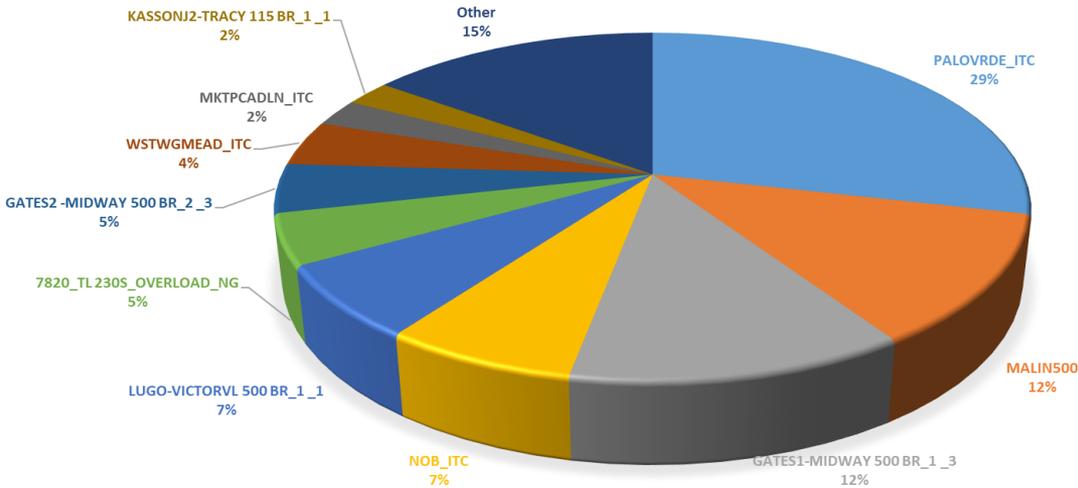
Monthly Deficit Amount for January was approximately \$1.2 million



Monthly Deficit Amount for February was approximately \$10 million

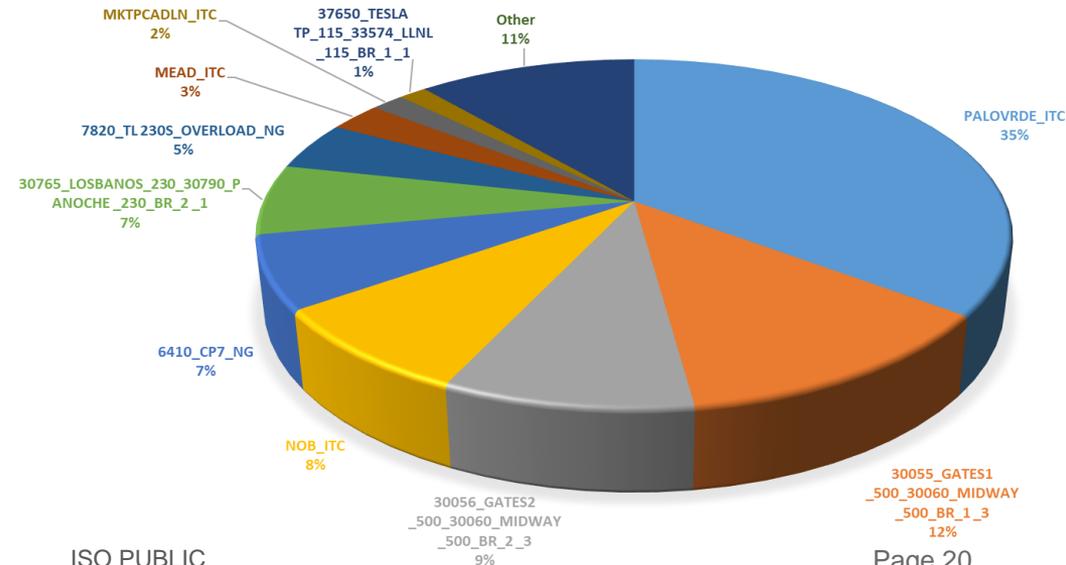


# CRR surplus is allocated to measured demand



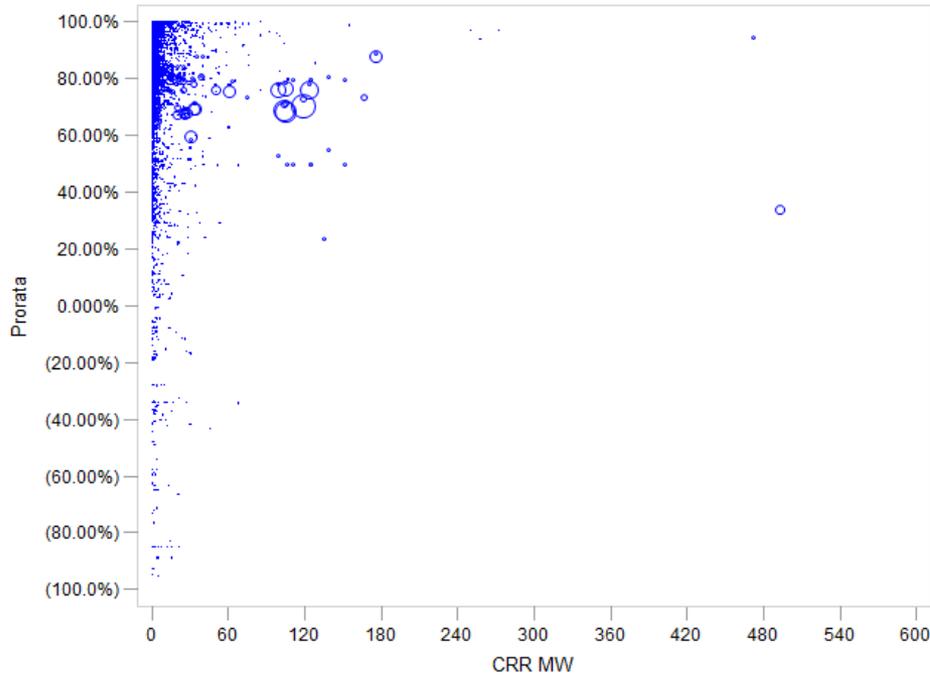
Monthly Surplus Amount for January was approximately \$2.6 million

Monthly Surplus Amount for February was approximately \$8.8 million

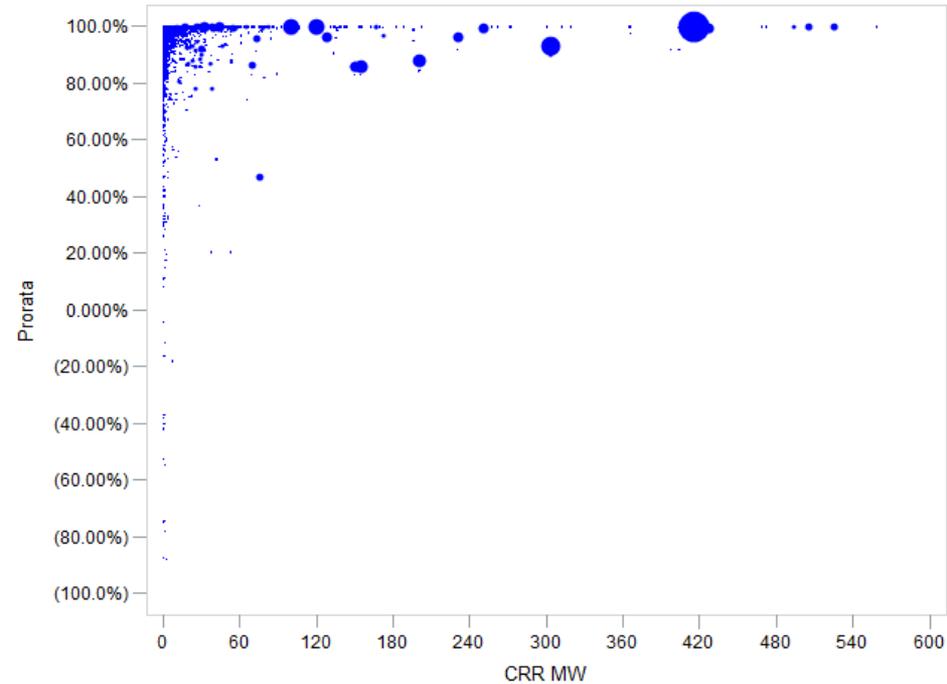


# CRRs observed a wide spread of adjustments

## Deficit Offset



## Surplus Offset



# Breakdown of CRR notional value and offset deficits (Millions \$)

| Notional Value |      | Sink |      |      |      |
|----------------|------|------|------|------|------|
|                |      | CLAP | DLAP | SP   | THUB |
| Source         | G    | 9.3  | 0.8  | -0.1 | 1.6  |
|                | SP   | 3.0  | 0.6  |      | 2.3  |
|                | THUB | 0.3  | 0.5  |      |      |

| Offset |      | Sink |      |      |      |
|--------|------|------|------|------|------|
|        |      | CLAP | DLAP | SP   | THUB |
| Source | G    | -1.4 | -0.2 | -0.7 | -0.3 |
|        | SP   | -0.9 | -0.1 |      | -0.7 |
|        | THUB |      |      |      |      |