



ERCOT CRR Update to CMWG

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Day-Ahead Market and CRR Auction**

ERCOT Public

December 14, 2012

Outline of CRR Discussion for CMWG

Year 1/ Year 2 Annual Auction summaries

- Annual auction timeline completed
- NPRR implementations 453, 357/430 (Sep 13) , 347/400 (Nov 9)
- 2012 Annual Models Build Update
- Couple of results

2013 CRR Roadmap

- Rolling Auction Transition for NPRR463
- Milestones and Key Dates for NPRR463
- Transition challenges
- Summary of how auction changes from Annual to Semi-Annual/Rolling

Protocol expiration of CRR Auction Revenue Distribution Methodology in December 2013

Annual Auction Progress- Timeline

June 19, 2012 - Board Approval of NPRR453 to separate Year1/Year2 auction

July 12, 2012 - CRR Calendar release for Year 1/ Year 2 separation (monthly unchanged)

Aug 15, 2012 – General Market Notice Reminder of Key Dates (TSP/CRR/Credit focus)

- *August 22, 2012 – Last date for Transmission Service Provider (TSP) submitted Network Operations Model Change Requests (NOMCRs) to be included in the model snapshot for 2013 CRR Auction model*
- *September 25, 2012 – ERCOT shall post the CRR Network Model for the 2013 (Year 1) Annual Auction*
- *October 3, 2012 – ERCOT shall post the 2013 (Year 1) Auction Notice and Credit Submission Window Opens*
- *October 12, 2012 – ERCOT deadline to receive Pre-Assigned CRR (PCRR) Nominations for 2014 (Year 2)*
- *October 22, 2012 – CRR Auction Credit Lock Date for 2013 (Year 1) Auction*
- *October 25, 2012 – CRR Auction Bid Window Closes for the 2013 (Year 1) Annual Auction*
- *October 26, 2012 – ERCOT shall post the CRR Network Model for the 2014 (Year 2) Annual Auction*
- *November 5, 2012 – ERCOT shall post the 2014 (Year 2) Auction Notice and Credit Submission Window Opens*
- ***November 12, 2012 – CRR Auction Results posted for 2013 (Year 1) (posted early Nov 8)***
- *November 26, 2012 – CRR Auction Credit Lock Date for 2014 (Year 2) Annual Auction*
- *November 29, 2012 – CRR Auction Bid Window Closes for the 2014 (Year 2) Annual Auction*
- ***December 17, 2012 – CRR Auction Results posted for 2014 (Year 2) (posted early Dec 13)***

Squeezed in parallel with Monthly December and January models, true-up allocation, credit, bidding, execution

- **Nov 9- NPRR 347/400 – Implement Credit/S&B Changes Friday, plan to release CRR Credit Tues Nov 13 at latest**
- **Reminder of triple credit overlap in windows (Yr1/Dec/Yr2), but annuals will not overlap in “locked” credit**

YEAR 1 SUMMARY:

- Prior sales of annual model consume portion of 200k transaction limit-
 - 200,000 = CRR Transaction Limitation
 - - 31,448 = Existing ownership (previous auction)
 - 168,552 available to bid/offer
 - **133,540 Year 1 Bids/Offers received with 2,500 limit** (129k bids, 4.5k offers)
 - Optimization for 165k transactions (market was 82% subscribed)
 - Observe if 3,500 was limit, could had been additional 20,000 bids received
- CRR Account Holder population has grown-
 - 97 = 2011 Number of active bidding CRRAH in 2011 Annual
 - 145 = 2012 Number of CRRAH eligible in auction
 - If oversubscribed Round 2 limit = 1,165 (168k bids / 145 CRRAH)
- ERCOT supports moving forward with 3,500 limit that TAC approved for Year 2
 - Although auction could hold more, risk to overselling inventory too soon and limit what is left for subsequent auctions
 - Theortically with rolling auctions may sell 30k + 30k +30k +30k > leaving only 80k for monthly
- Execution times: **PWD = 210 hours PWE = 96 hours OP = 18 hours**
- Credit Lock = **\$1.27Billion**

YEAR 2 SUMMARY

- Year 2 transaction of 200k transaction limit (minus PCRRs 3,491)-
 - 200,000 = CRR Transaction Limitation
 - - 3,986 = Existing ownership (PCRR ownership)
 - 196,014 = Bids/Offers available
 - **121,184 = Year 2 Bids/Offers received with 3,500 limit**
- CRR Account Holder population -
 - 97 = 2011 Number of active bidding CRRAH in 2011 Annual
 - 129 = 2012 Number of CRRAH eligible for Year 2
 - If oversubscribed Round 2 limit = 1,542/CRRAH
- Execution times: **PWD = 98 hours PWE = 55 hours OP = 21 hours**
 - **Significantly improved execution times thanks to a software upgrade between Year1/Year2 auction**
- Credit Lock = **\$784 million**
- Post auction inventory = **22,363 CRRs Sold in 2014**

Reminder of models used in Annual Auctions

Current Status/Statistics for 2013 Model

Aug 29, 2012 = Production/CIM snapshot of network model, NOMCRs, Outages

69 = Number of outages considered for 2013 monthly models

473 = Approved NOMCRs through 2012 (builds up future model through end of year)

21 = Approved NOMCRs with dates in 2013

Current Status/Statistics for 2014 Model

Sep 24, 2012 = Production/CIM snapshot of network model, NOMCRs, Outages

0 = Number of outages considered for 2014 monthly models

0 = Approved NOMCRs with dates in 2014

Monthly LDFs that were used below where CRR utilizes most recent operational values on record for Hot/Mild/Cold

- Jan Cold

- Feb Cold

- Mar Mild

- Apr Mild

- May Hot

- Jun Hot

- Jul Hot

- Aug Hot

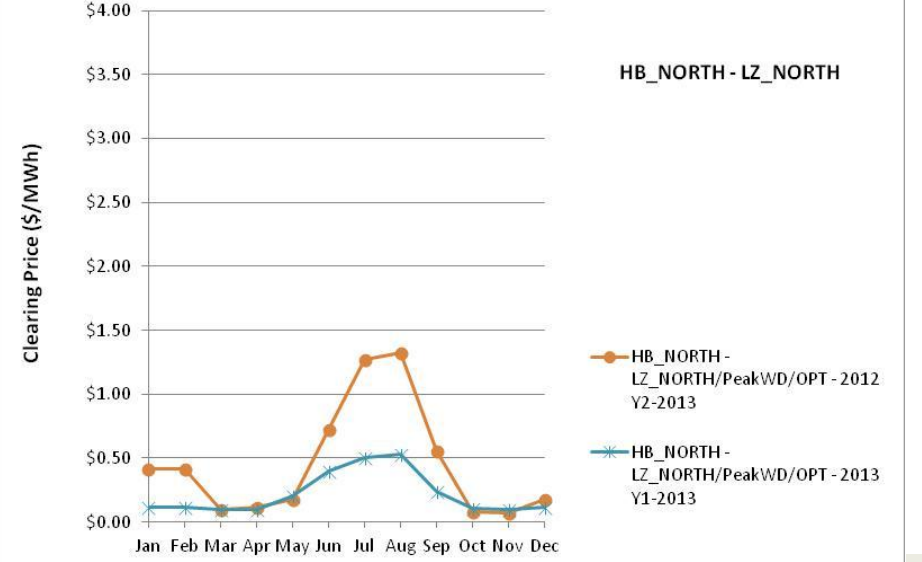
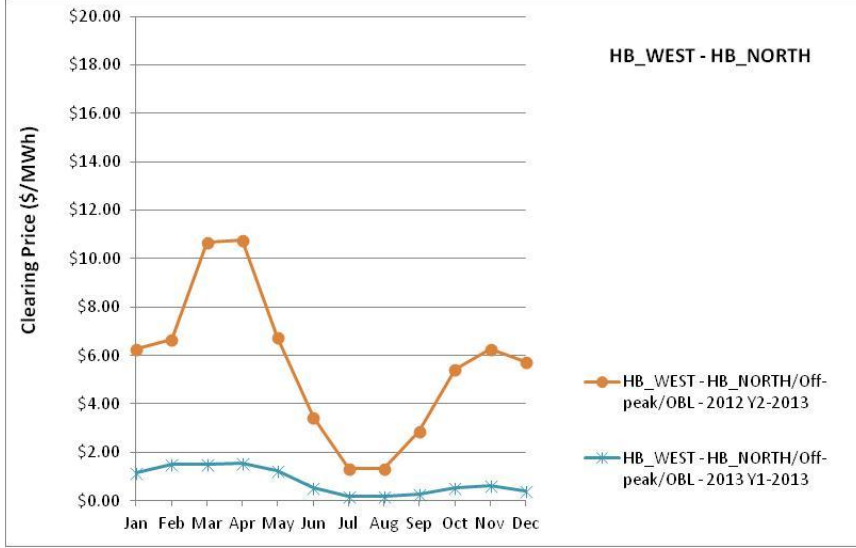
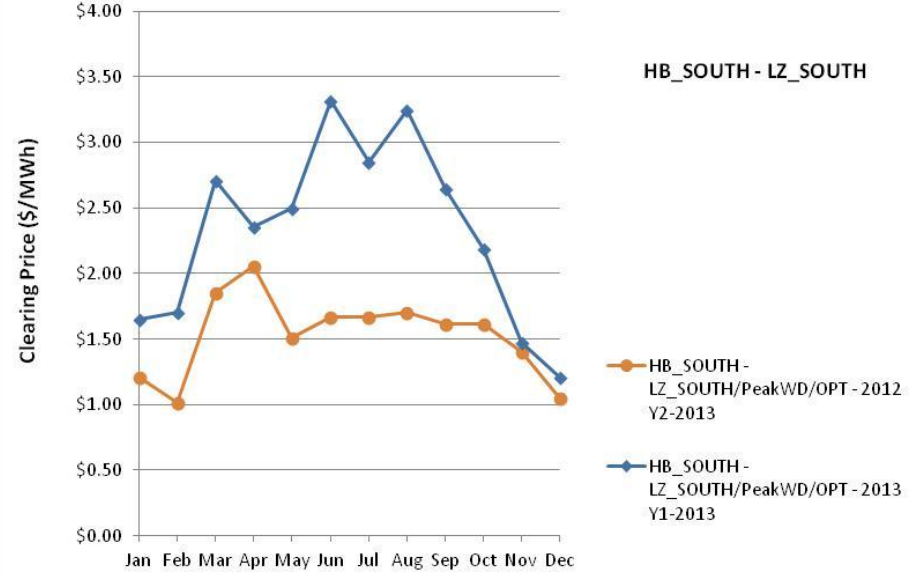
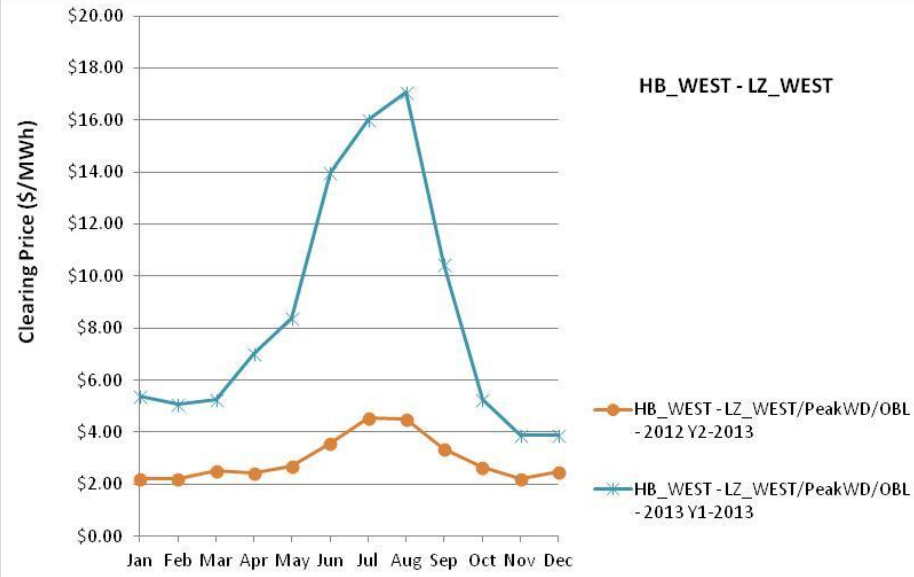
- Sep Hot

- Oct Mild

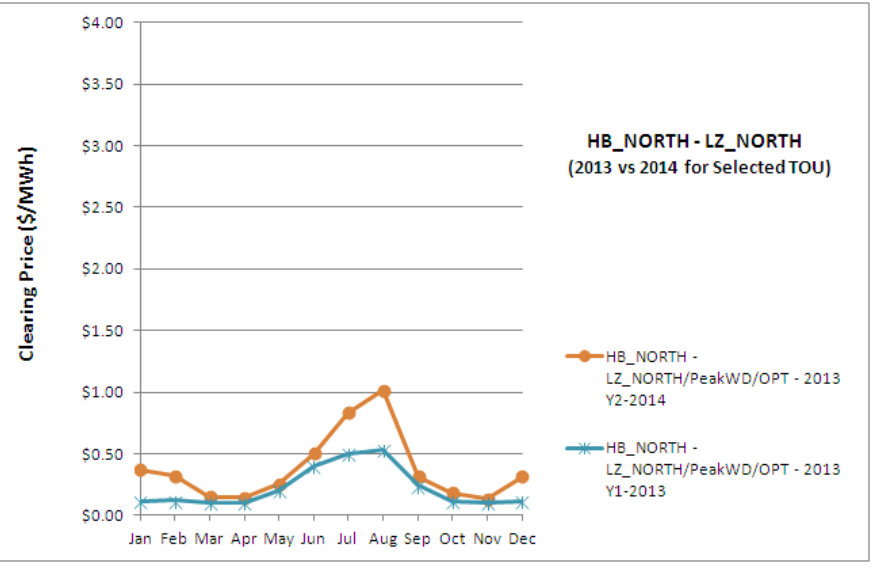
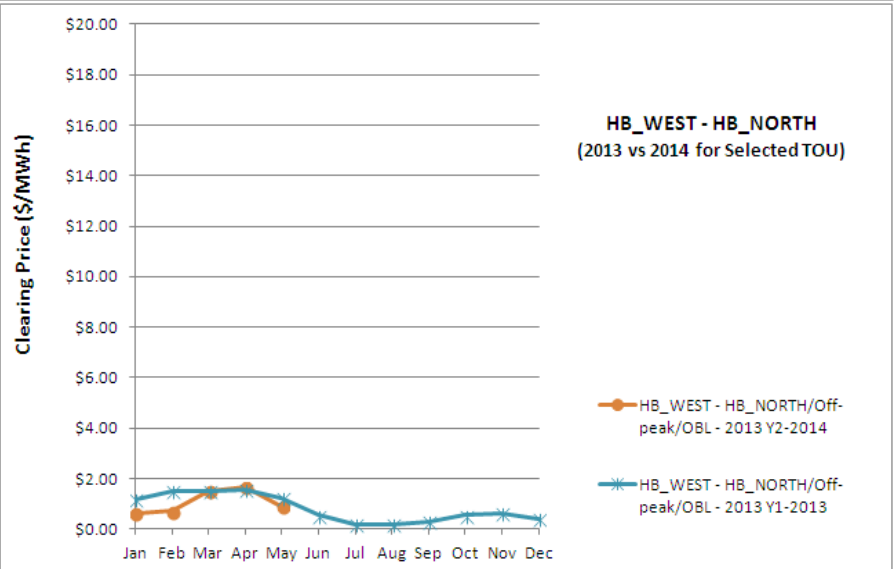
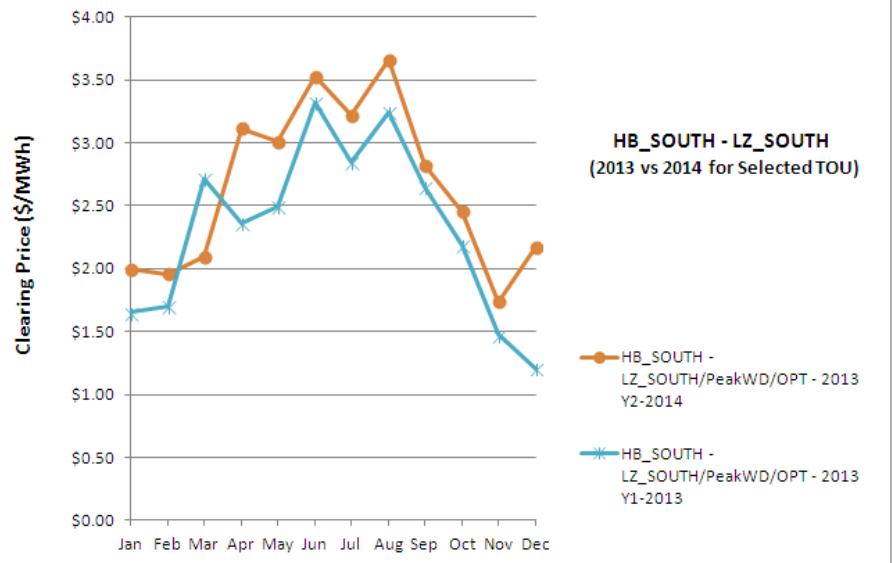
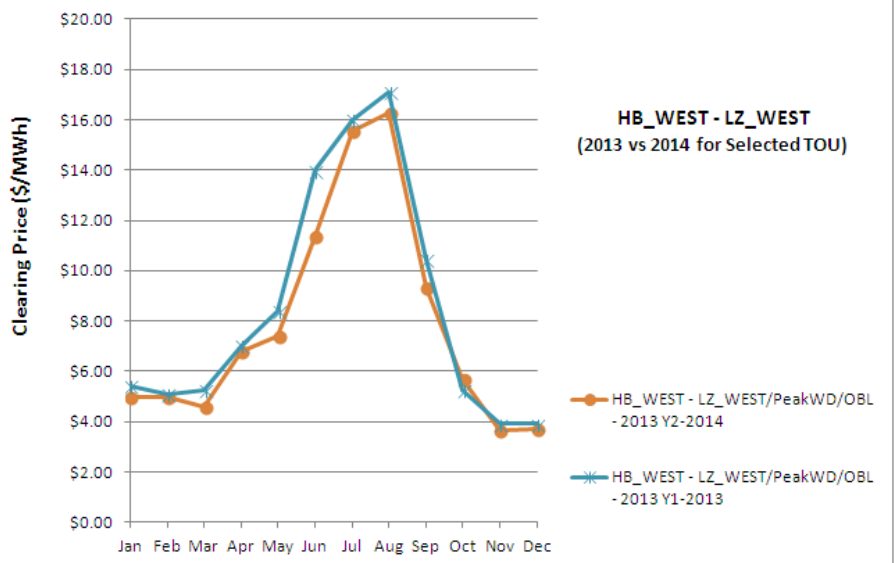
- Nov Mild

- Dec Cold

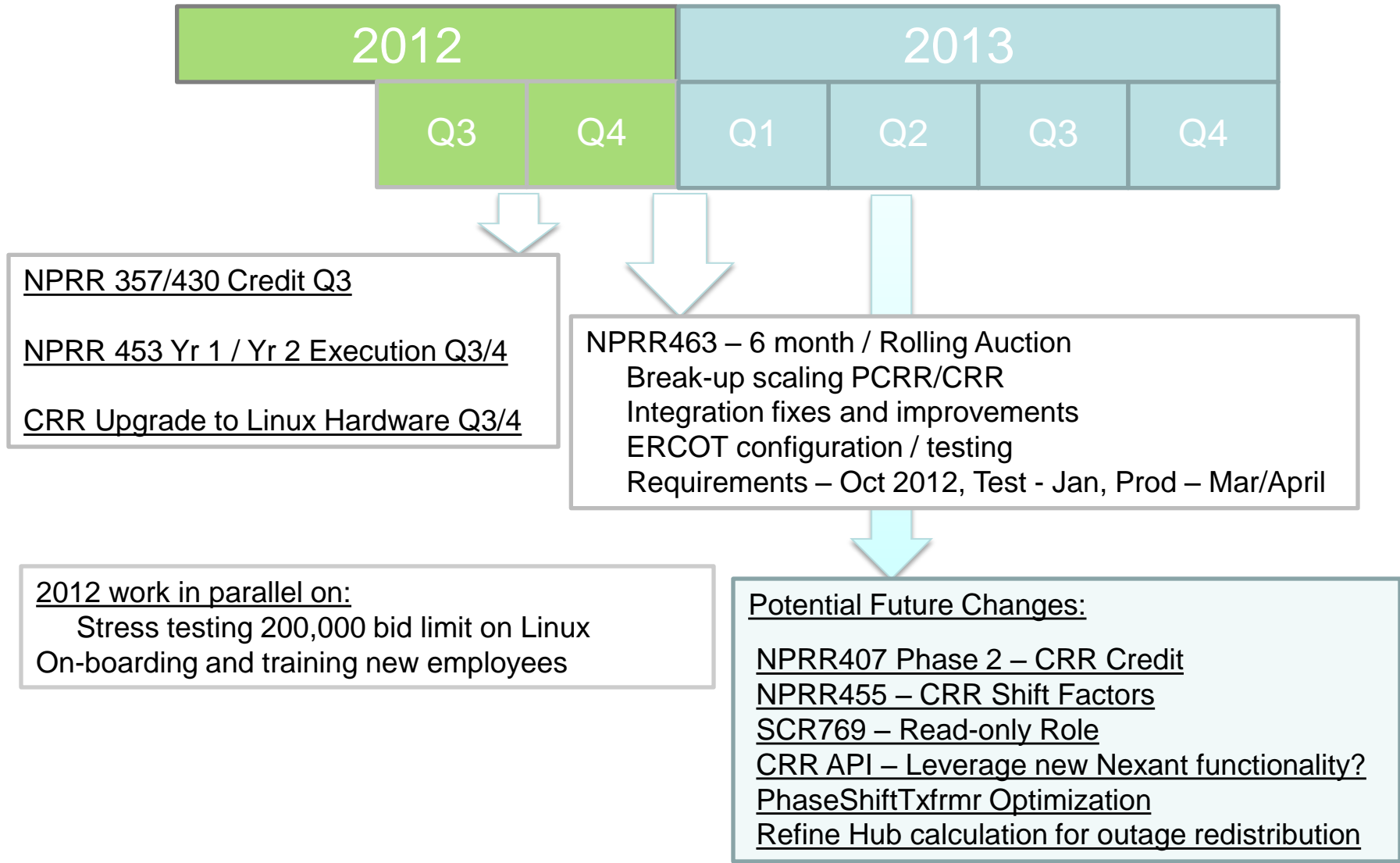
Couple of results (2013 Operating Year value changes)



Couple of results (2013 vs 2014 changes)



CRR Roadmap



Rolling Auction Transition

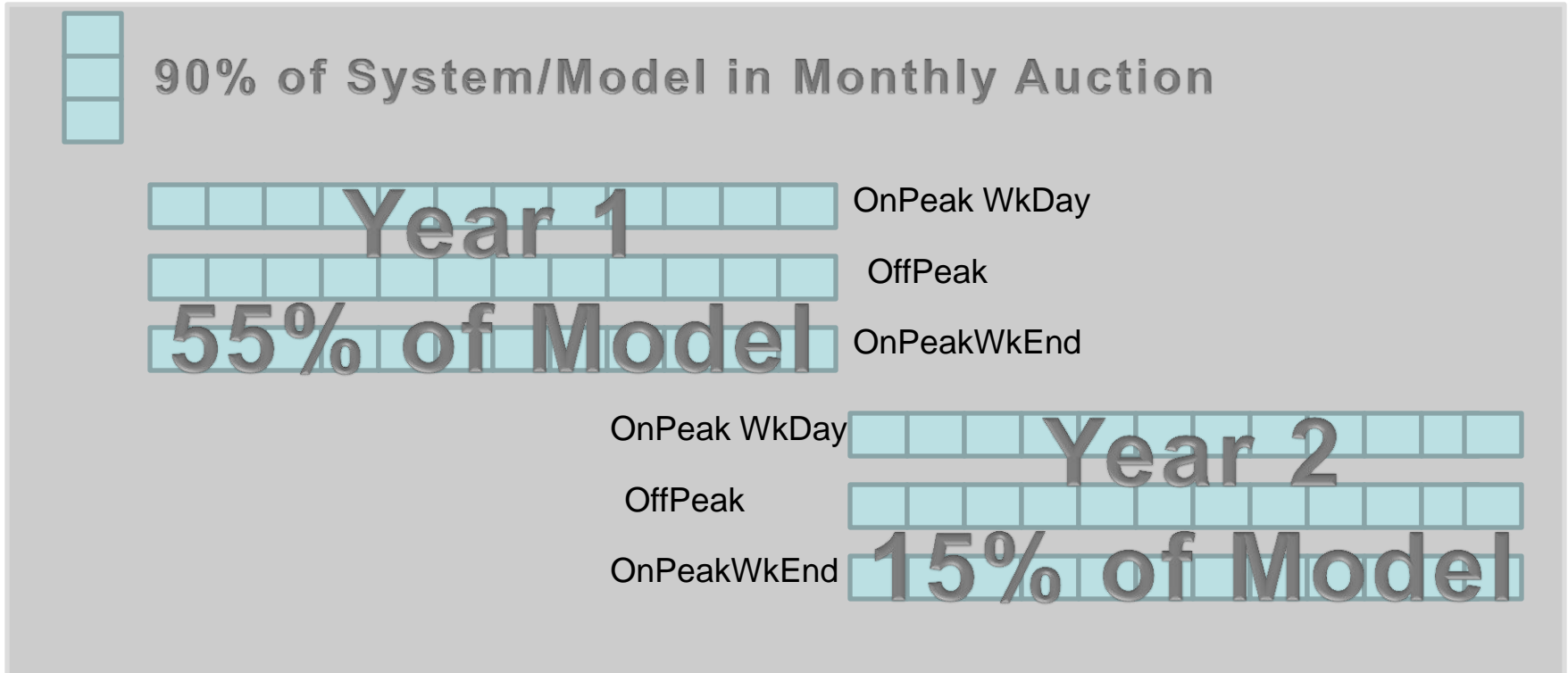
Milestones and Key Dates

- Project moves into Execution Dec 19
 - Sept focus on Nexant scope/requirements
 - Oct/Nov focus on Integration issues/scope
 - FTE hired to support rolling auction started in October
 - **December project execution begins**
- **By Dec 31 CRR Team to release draft 2013 CRR Calendar inclusive NPPR463 Rolling Auction**
- Internal testing Jan/Feb/Mar (FAT and iTest)
- **TAC approval of CRR Calendar in February meeting**
- **Go-Live migration in March/April**
- **No market-facing trials are currently planned but will host Q&A webex/calls**
- Production execution timing similar to annual
 - Auction notice and model posting potentially early April
 - Execution start in late-April/early-May (2 months before OpMonth)
 - Each auction to have 3-week iteration
 - Credit lock, Submit Bids, Execute, Post Results (4x)
- Transition challenges to be aware of beyond project risk-
 - CRR calendar changes, Early NOIE nominations, CCT review semi-annually?

Current Auction Structure - 1x/Year

In 4th Quarter of each year, sell next 2 years of CRRs at monthly granularity in an annual 12-month optimization

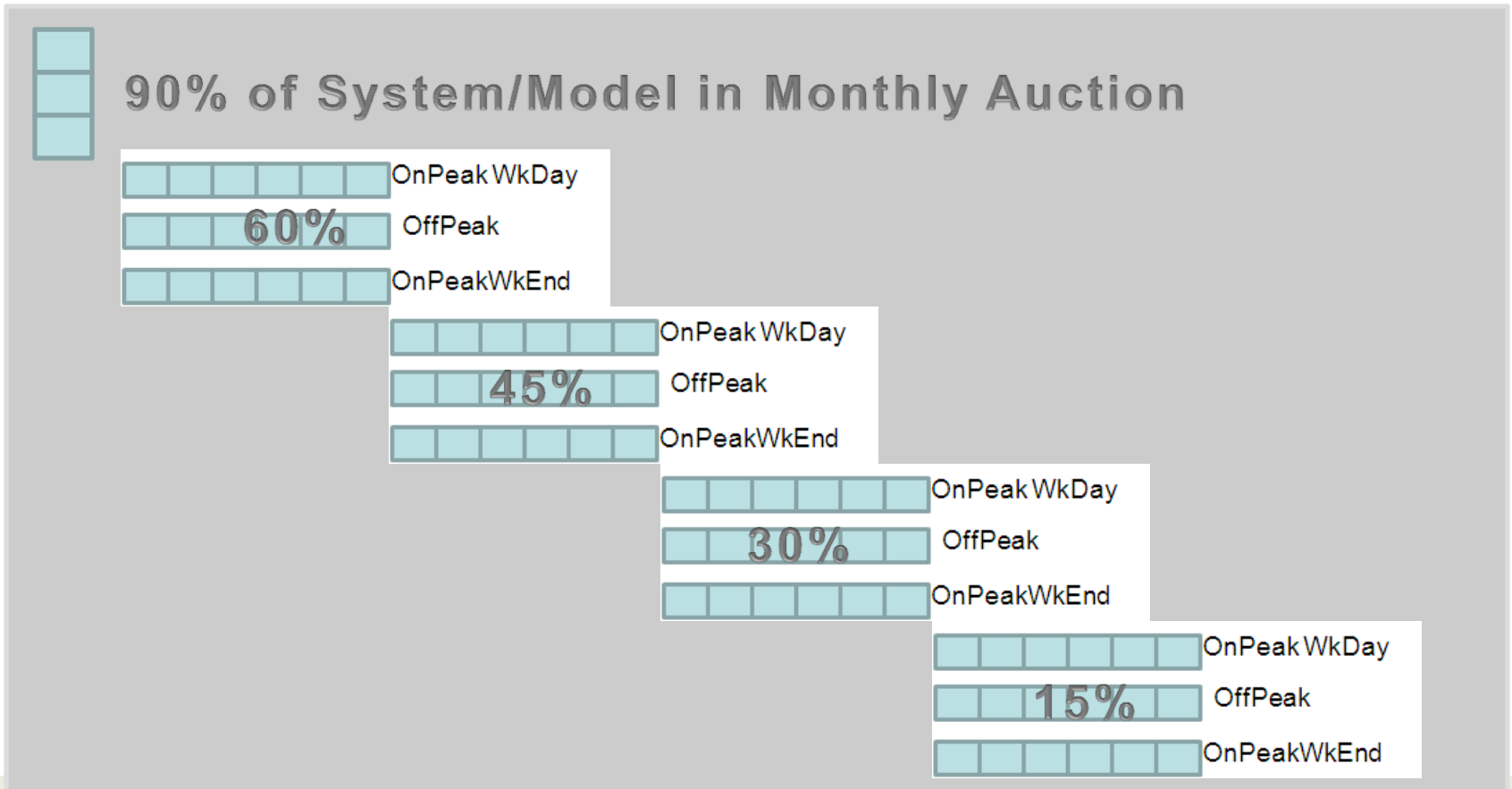
- Year 1 on 55% Model
- Year 2 on 15% Model
- Optimize each time-of-use across multi-period months for annual
- Monthly auction is 90% and optimize across 3 times of use



Next Year Auction Structure - 2x/Year

In 2nd and 4th Quarter of each year, sell next 2 years of CRRs at monthly granularity in an 6-month optimization

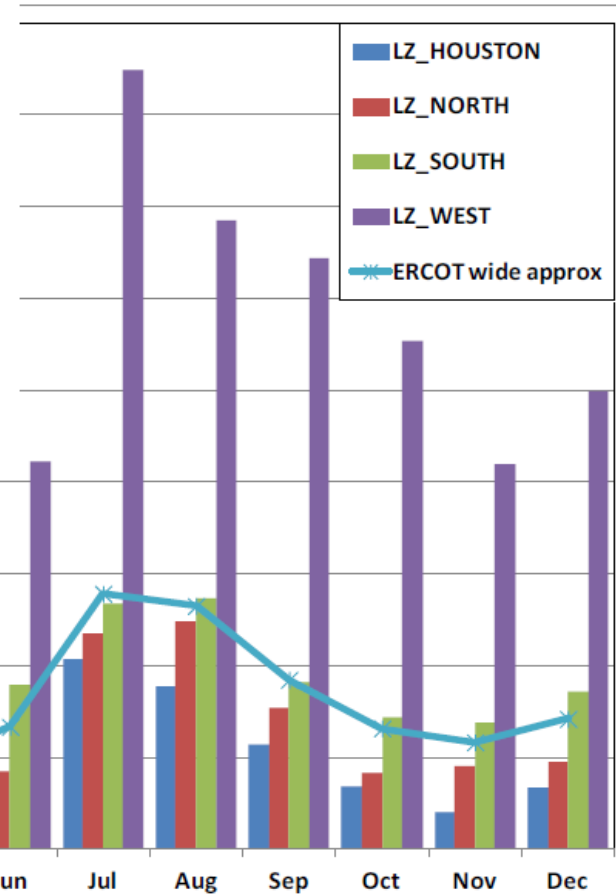
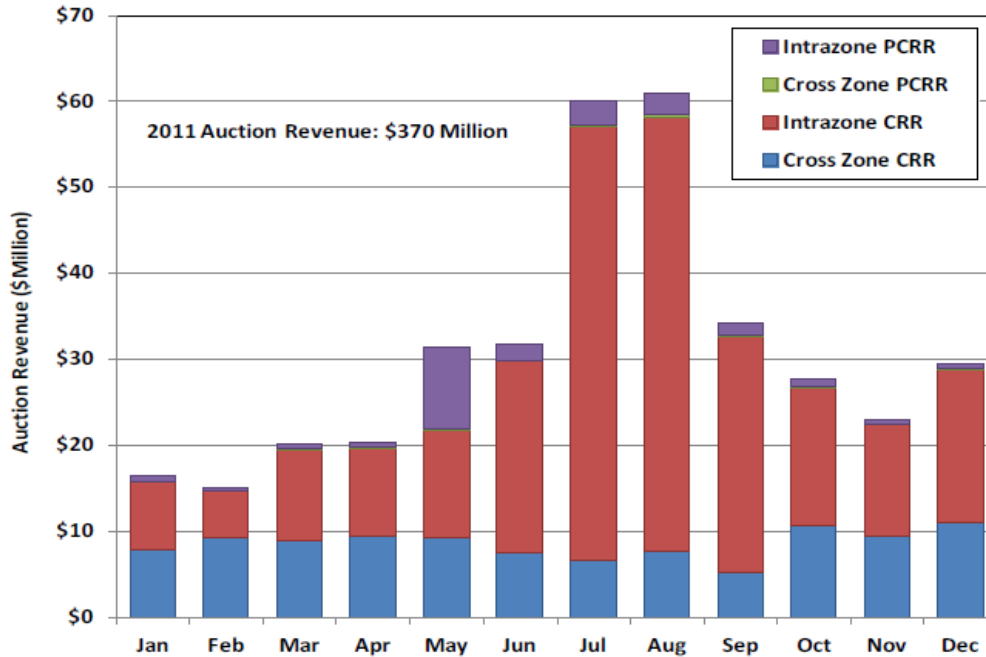
- First 6-months at 60%, Second 6-months 45%, Third at 30%, Fourth at 15%
- Optimize each time-of-use across multi-period months for annual
- Monthly auction is 90% and optimize across 3 times of use



7.5.7 Method for Distributing CRR Auction Revenues

- (2) Prior to December 1, 2013, ERCOT shall credit the net CRR Auction revenue (including PCRR revenue) produced from CRRs cleared in each CRR Auction that source from a Settlement Point located within a 2003 ERCOT Congestion Management Zone (CMZ) and sink at a Settlement Point located within the same 2003 ERCOT CMZ to Qualified Scheduling Entities (QSEs) in the 2003 ERCOT CMZ on a zonal Load Ratio Share (LRS) basis. All other net CRR Auction revenues must be allocated to QSEs on an ERCOT-wide LRS basis. For these allocation purposes, any Non-Opt-In Entity (NOIE) Load Zone is considered to be located entirely within the 2003 ERCOT CMZ that represented the largest Load for that NOIE or group of NOIEs in 2003. Before the end of the three-year period described above, the ERCOT Board shall consider whether to extend the policy or ratify some other alternative.
- **ERCOT asks that stakeholders consider if any policy changes are needed:**
 - **Recommend stakeholder review for policy consideration**
 - **Board review and approval due in late 2013**
 - **If NPPR and system changes are needed then timing becomes an issue**
 - **ERCOT can support analysis if necessary in the decision process**

CRR Auction Revenues



2011 SOM, Figure 39, pages 49-50