



# Briefing on MRTU

Steve Berberich  
Vice President, Corporate Services

ISO Board of Governors Meeting  
General Session  
October 28-29, 2008

# Agenda for MRTU discussion:

- MRTU Program Status
- Price Output Analysis – Mark Rothleder
- LECG Final Report – Scott Harvey
- DMM Readiness – Keith Casey
- Outstanding MRTU Activities – Debi Le Vine
- Deferred or Limited Functionality – Mark Rothleder
- Process for 60-Day MRTU Certification – Sidney Davies
- Participant Comment



# The ISO has continued to progress toward a December 1<sup>st</sup> go live filing with FERC

- All planned go live functionality is in place
- Bidding, Day Ahead, Real Time are working well with few exceptions
- Settlements has upstream data issues that are impacting market participants ability to shadow settle
- Market timeline and quality of solution criteria are being met, with a few understood exceptions
- Simulation limitations periodically impact results and cannot be resolved



# Still, we agree with participants that critical elements must be completed before go live

- Agreed upon exit criteria must be met
- We need to resolve open quality of solution concerns market participants have – particularly with RUC
- Monthly settlement statements need to be produced with the vast majority of charge codes and high level of quality
- Open FERC orders are required
- Department of Market Monitoring is in a position to monitor the market



# The bidding and settlement infrastructure is complete with few variances

System Performance		
Availability to submit bids	Graphical User Interface	96.53%
	Automated Programmatic Interface	96.07%
Ability to submit bilateral trades	Graphical User Interface	96.53%
	Automated Programmatic Interface	96.07%



# Day Ahead Market is running well albeit late some days

## Day-Ahead Market Performance August 18<sup>th</sup> - October 17<sup>th</sup>

	Requirement	Market Simulation Results
<b>Publish Results</b>	Daily	100%
<b>Without scenario</b>	By 1300	29 of 41 days
	By 1330	7 of 41 days
	By 1400	4 of 41 days
	After 1400 (at 1409)	1 of 41 days
<b>With participant scenario running</b>	By 1300	7 of 20 days
	By 1330	6 of 20 days
	By 1400	7 of 20 days
<b>Quality of Solution</b>		98%



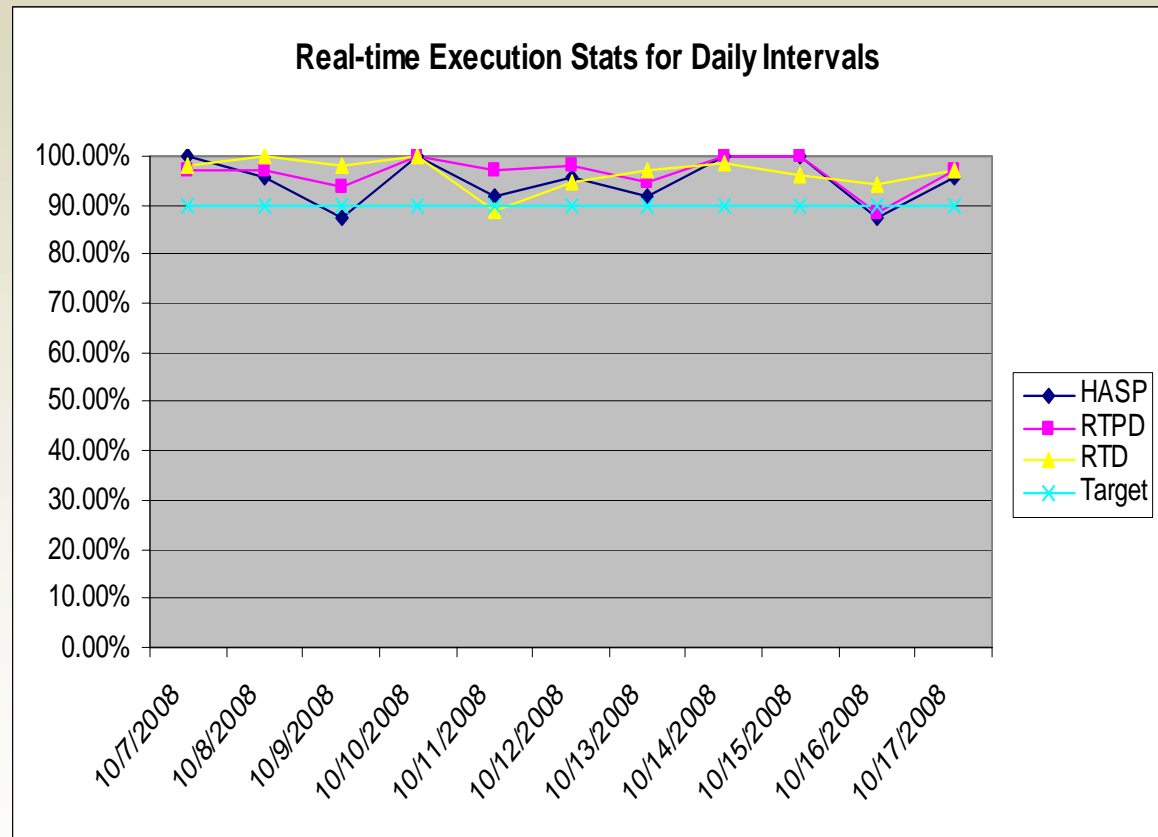
# The Day Ahead market is producing valid results

- Daily performance metrics on energy, ancillary services, and objective cost reviewed with market participants
- Results verified as calculating correctly
- Results are impacted by scenario execution and the simulation environment
- High Residual Unit Commitment prices are being experienced
  - Insufficient bids
  - System constraint settings; e.g. adjustments to load forecast
  - Capacity deficiencies
  - Verifiable with tariff and design specification
  - We will execute controlled tests over a three day period



# In the last thirty days, there has been marked improvement in the Real Time Market

- All material performance issues have been resolved
- Interval performance is solid except for simulation conditions and maintenance intervals



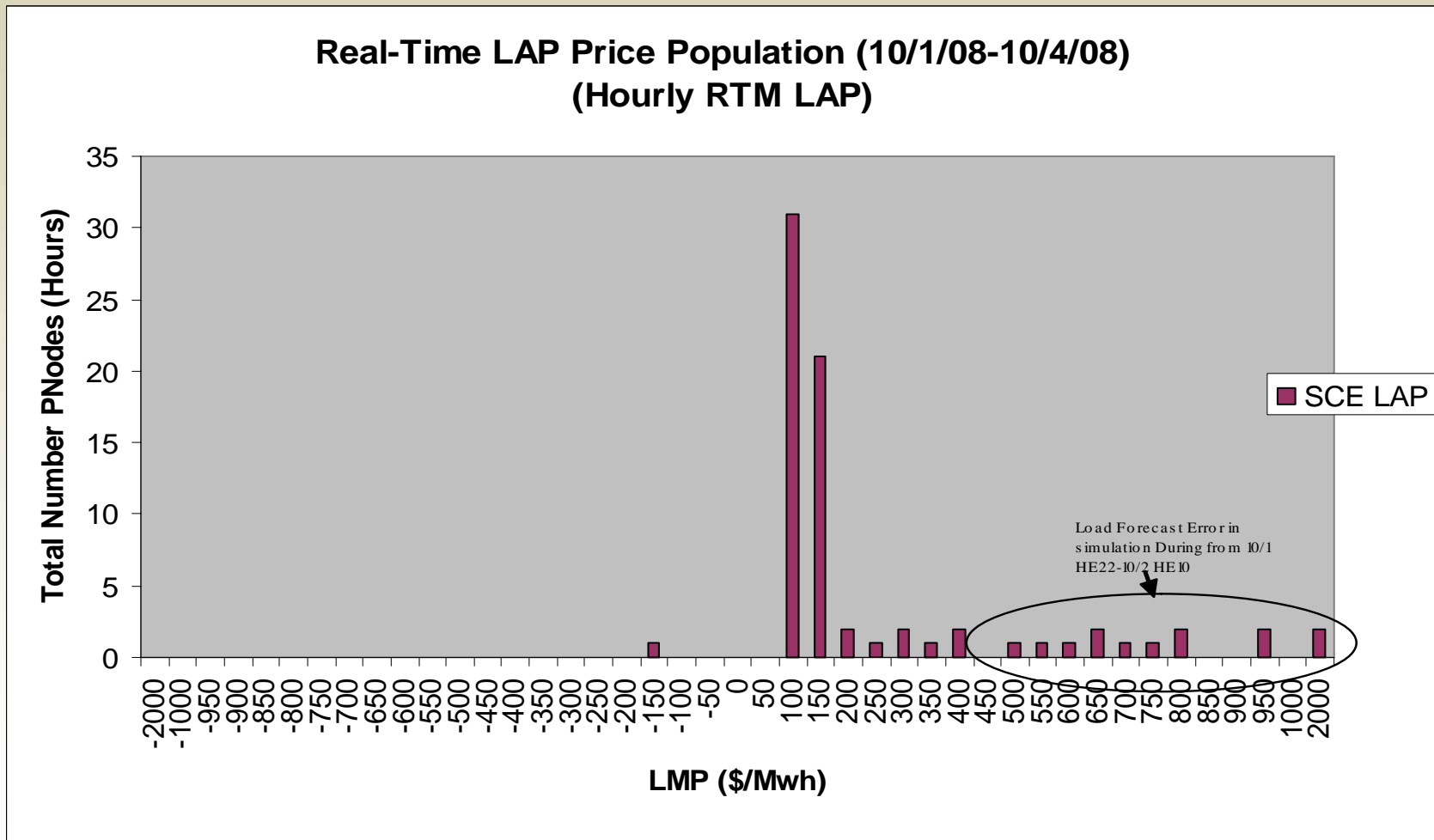


# Real Time Market is producing valid results

- Daily performance metrics for nodal, LAP and Ancillary Service prices reviewed with Market Participants
- As with Day Ahead, Real Time results are impacted by simulation
- Distribution of prices are as expected when simulation limitations are considered
- Observed high prices are understood and can be explained in almost all cases
- We remain committed to explaining high prices and exceptions



# Simulation limitations demonstrated



# Settlements progress has been good but is on the critical path

- The settlements software is complete and working as expected
- All 125 charge codes have been manually validated bid-to-bill
- Upstream data issues impact quality of statements produced to date
- Despite this, 104 charge codes that should be able to be validated
- For us to establish confidence in settlements, two sound quality monthly statement must be produced by December 1<sup>st</sup>
  - An October statement will be published by November 1<sup>st</sup>
  - A corrected September statement will be produced by November 11<sup>th</sup>
  - September daily statements will be re-run



# We are working intensely with participants to resolve open settlements issues

- Each participant has unique settlement challenges
- Issues range across the board
  - Misunderstandings
  - ISO variances
  - Shadow system variances
- We have hosted several participants and their shadow system vendors to resolve issues
  - Structure
  - PCI
  - CYCG
  - NCPA (custom)



# Internally, most process and controls have been defined and implemented

- Each business unit has completed the plan, analysis, design, build and implement phase assessments
- All ISO business units are currently on track for readiness before the January 31, 2009 Go-Live date
- Final sign-off for all 14 high priority business processes was completed by business owners as of September 30<sup>th</sup>
  - End-to-end testing
  - Identification and mitigation of functional gaps
  - Drafted and testing SAS-70 controls



# Training is on track and now focuses primarily on grid operations

- Level 100 and 200 training courses provided for all staff
- Level 300 training courses for certain staff
- Grid Operations currently executes the simulation Day Ahead Market and is executing operational scenarios
- A simulation area has been established to transition market execution from the project to operations
  - Continue to execute Day Ahead Market
  - Execute the Real Time Markets
  - Manage outage tickets
  - Manage “tagging” for interties



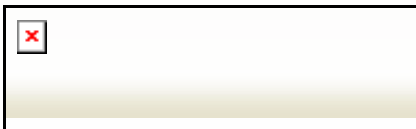
# Extensive external training has been delivered

- Offered 100 through 300 level training and settlements workshops
- Classes were offered in multiple locations throughout the West and in Houston and NYC
- Over 3,000 representatives of Market Participants have attended
- Classes available on DVD or on the ISO website
- We will now focus on refresher training



# We recently conducted a pre-final external readiness assessment

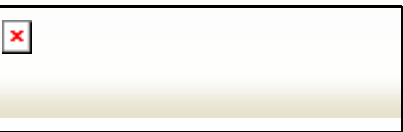
- Questions were asked in the same areas as the previous assessments: People, Process, Technology, Market Operations, and Charge Code validation.
- 98 SCs were sent the Pre-Final Assessment on September 30, 2008.
- 49 SCs responded as of October 21, 2008.
- SCs who act as Scheduling Agents provided assessments that were applicable to their SC clients.





# The assessment indicated mixed readiness status

Category	# of SCs Completed	# of SCs On Track	# of SCs Not on Track
People	4	35	7
Process	2	35	12
Technology	0	37	10
Market Operations	0	32	10
<b>Charge Codes</b>			
Manual Validation	1	17	14
Vendor Validation	2	11	10
Shadow System Validation	0	16	14



# Looking forward, we plan to continue activities toward February 1

## By December 1<sup>st</sup>

- Initiate a code “freeze” (December 6<sup>th</sup>)
- Complete market simulation exit criteria
- Publish two complete monthly settlement statements
- File necessary tariff amendments and MRTU certification
- Resolve lingering pricing concerns
- Complete contingency planning

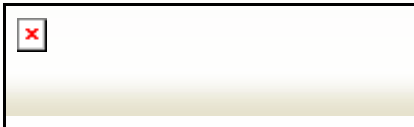
## By January 1<sup>st</sup>



- Execute annual and monthly congestion revenue rights auction
- Update network model
- Initiate parallel operations and cutover/reversion plan



# The simulation exit criteria are a critical part of readiness

Criteria Description	Assessment
The ISO will allow all SCs to participate	On track with little risk
Publish daily settlement statements and supporting documentation by TD+5BD.	Not Achieved and will require quick resolution
Publish two monthly settlement statements and supporting documentation by TD+25BD.	Not Achieved and will require quick resolution
Publish CRR Auction settlement statements and supporting documentation.	On track with little risk
Publish two accurate monthly invoices.	Not Achieved and will require quick resolution
DAM successfully solves and publishes by 1300 for 7 consecutive days.	On track with little risk
No more than 5 consecutive 5 minute RT cases fail for 7 consecutive trading days.	On track with little risk
97.5% availability of external facing applications and interfaces.	On track with little risk
90% AC solution over the last 4 weeks.	On track with little risk
Every charge code exercised and valid.	Not Achieved and will require quick resolution
Scenarios successfully completed.	On track with little risk
CAISO systems patches will be fully tested, installed, and validated.	Not Achieved and will require quick resolution
HASP successfully solves and publishes ontime 95% of the time for 7 consecutive days.	On track with little risk
RTM successfully solves and publishes ontime 95% of the time for 7 consecutive days.	On track with little risk



On track with little risk   
 Not Achieved and will require quick resolution 

# The simulation exit criteria are a critical part of readiness

Criteria Description	Assessment
No open Critical and Very High variances. Mitigate or repair High variances.	Yellow
CAISO to publish a daily participation list.	Green
CAISO backup and restore plans executed.	Green
CAISO archiving and data retention plans performed.	Green
Market results based on inputs and consistent across external applications.	Yellow

- Additionally, we agree that the quality of solution must be sound

On track with little risk 

Not Achieved and will require quick resolution 



## In summary, we remain confident in our ability and the participant's ability to make February 1<sup>st</sup>

- Systems are stable and producing good results
- Open issues are being worked very quickly – down 40% in last two weeks
- Two quality monthly settlement statements are expected to be produced in November
- Participants have concerns we believe we can address
  - Achieving exit criteria
  - Resolving lingering quality of solution concerns
  - Assist in participant validation of charge codes

