



California ISO
Shaping a Renewed Future

Contingency Modeling Enhancements

Revised Straw Proposal Discussion

June 25, 2013

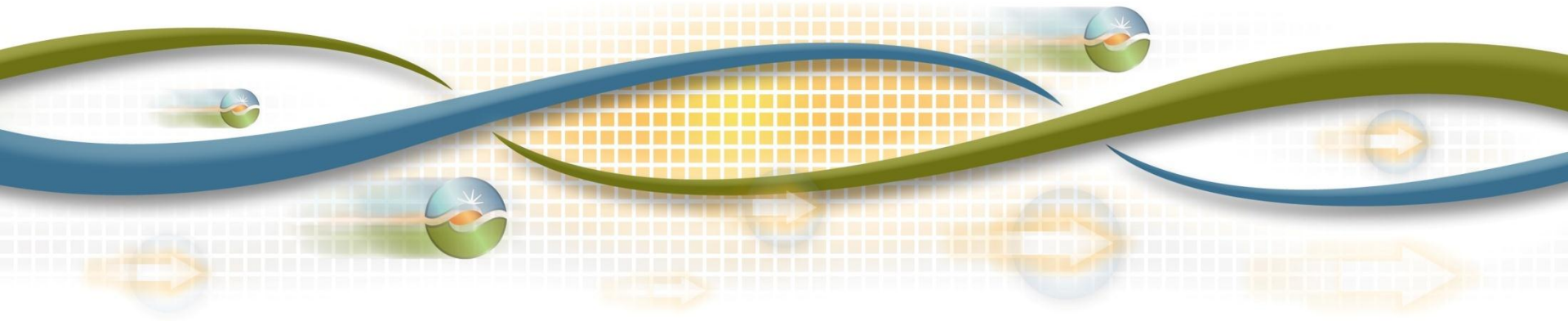
Delphine Hou

Senior Market Design and Policy Specialist

and

Lin Xu, Ph.D.

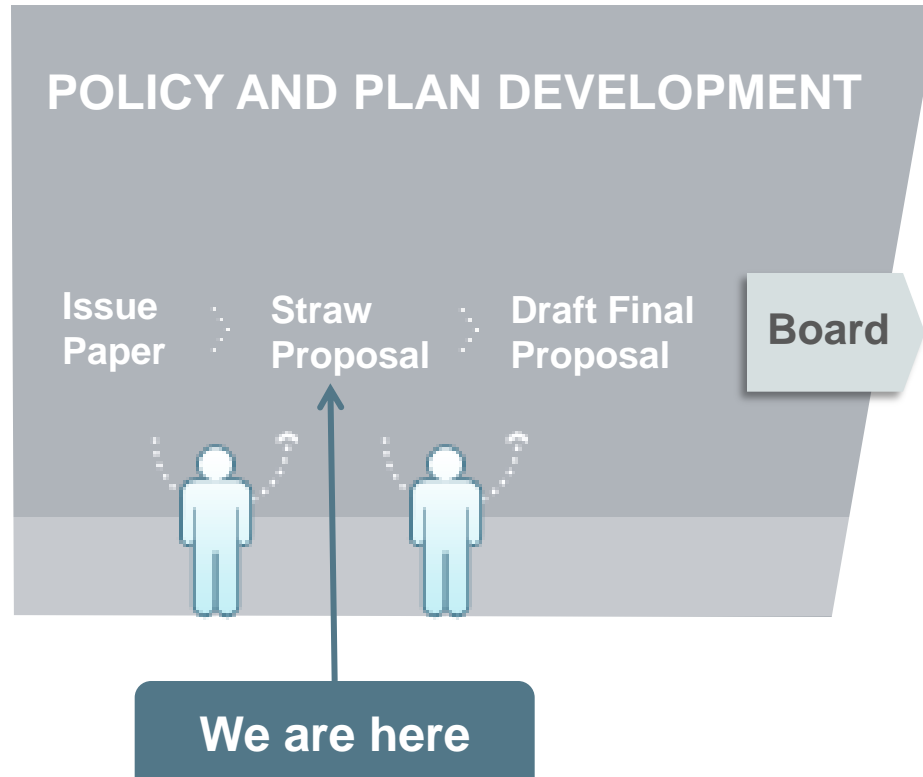
Lead Market Development Engineer



Agenda

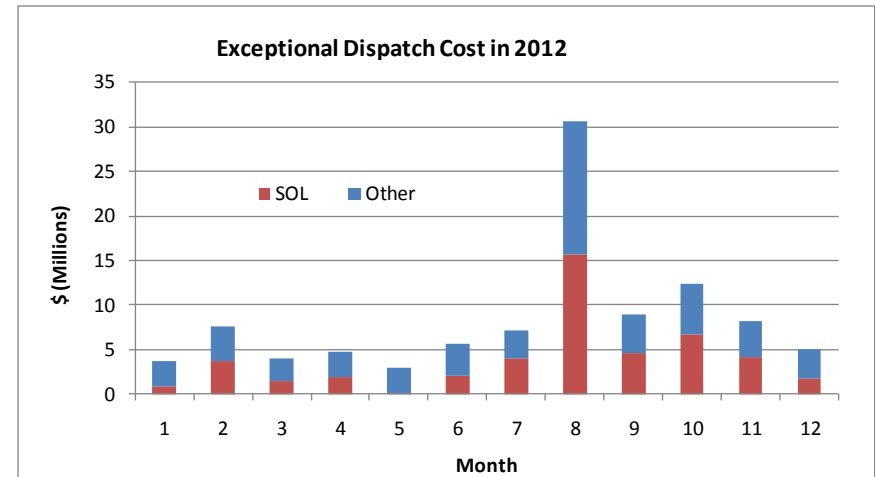
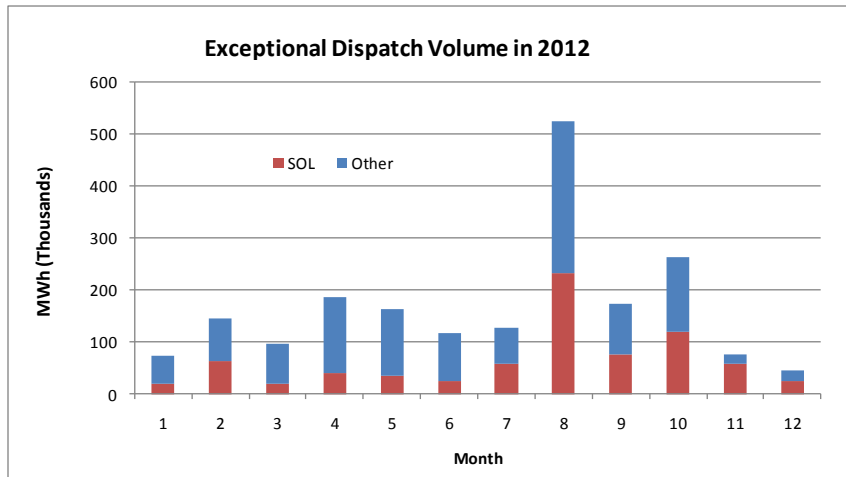
Time	Topic	Presenter
9:00 – 9:05	Introduction	Tom Cuccia
9:05 – 11:45	Changes from straw proposal	Delphine Hou
11:45 – 12:00	Next steps	Tom Cuccia

ISO Policy Initiative Stakeholder Process



Exceptional dispatch for WECC SOL standard

- 2012 volume (MWh) – 40% annual average
- 2012 cost - \$47 million (out of \$101 million total)



Benefits of the preventive-corrective constraint

- Reliability
 - Considers flow-based standard
- Market efficiency benefits
 - Procurement efficiency – manner in which capacity is procured, quantity procure, and location
 - More efficient use of resources
 - Don't need to exclusively rely on 10 min operating reserves
 - Don't need to procure separate “buckets” of capacity
 - Optimized with operating reserves and can use flexible ramping product post-contingency
 - Price discovery
 - Energy bids reflected in LMP – removes price suppression
 - Decrease in market uplifts

ISO proposals

- Remove bid-in ramp rate functionality
 - Ramp is a physical characteristic stored in Master File
 - SLIC for ramp rate derates
- No bidding for capacity
 - Bids need to reflect a cost
- System-wide cost allocation
 - Benefits are both local and system-wide

ISO proposals (cont'd)

- Local market power mitigation (LMPM)
 - May need to change current LMPM for energy to consider preventive-corrective constraint
 - If allow bidding, may need LMPM for capacity
- Proof of concept
 - Production level prototype
- Initial implementation
 - Extended market simulation
 - Simplifies implementation if no bidding

Load payment and CRR example

Weak preventive solution and settlement

Resource	MW	LMP ^{EN}	LMP ^{CONG}	LMP	Bid cost	Revenue	Profit/uplift
G1	700	\$50	-\$20	\$30	\$21,000	\$21,000	\$0
G2	100	\$50	\$0	\$50	\$5,000	\$5,000	\$0
G3	400	\$50	\$0	\$50	\$14,000	\$20,000	\$6,000
Total gen	1,200	N/A	N/A	N/A	\$40,000	\$46,000	\$6,000
Load	1,200	\$50	\$0	\$50	N/A	-\$60,000	\$0
CRR (A→B)	700	N/A	N/A	\$20	N/A	\$14,000	N/A

Preventive-corrective model settlement

Resource	MW	LMP	Bid cost	Revenue	Profit/uplift
Total gen energy	1,200	N/A	\$47,000	\$46,000	\$3,750
Total gen capacity	350	N/A	N/A	\$2,250	\$2,250
Load	1,200	\$50	N/A	-\$60,000	-\$2,250
CRR (A→B)	700	\$20	N/A	\$14,000	N/A

Next Steps

Item	Date
Post issue paper	3/11/2013
MSC presentation*	3/19/2013
Stakeholder conference call	3/26/2013
Stakeholder comments due	4/9/2013
Post straw proposal	5/15/2013
Stakeholder meeting	5/22/2013
Stakeholder comments due	5/28/2013
Post revised straw proposal	6/18/2013
Stakeholder call	6/25/2013
Stakeholder comments due	7/1/2013
Post draft final proposal	7/25/2013
Stakeholder call	8/1/2013
Stakeholder comments due	8/8/2013
Board meeting	9/12-13/2013

Please submit comments to ContingencyModeling@caiso.com