

*In July 2011 Johnson Controls acquired a Silicon Valley based company called EnergyConnect
... now operating as Johnson Controls, Integrated Demand Resources*

Integrating Demand Resources

California Energy Commission

DOCKETED
13-IEP-1F

TN 71319

JUN 17 2013



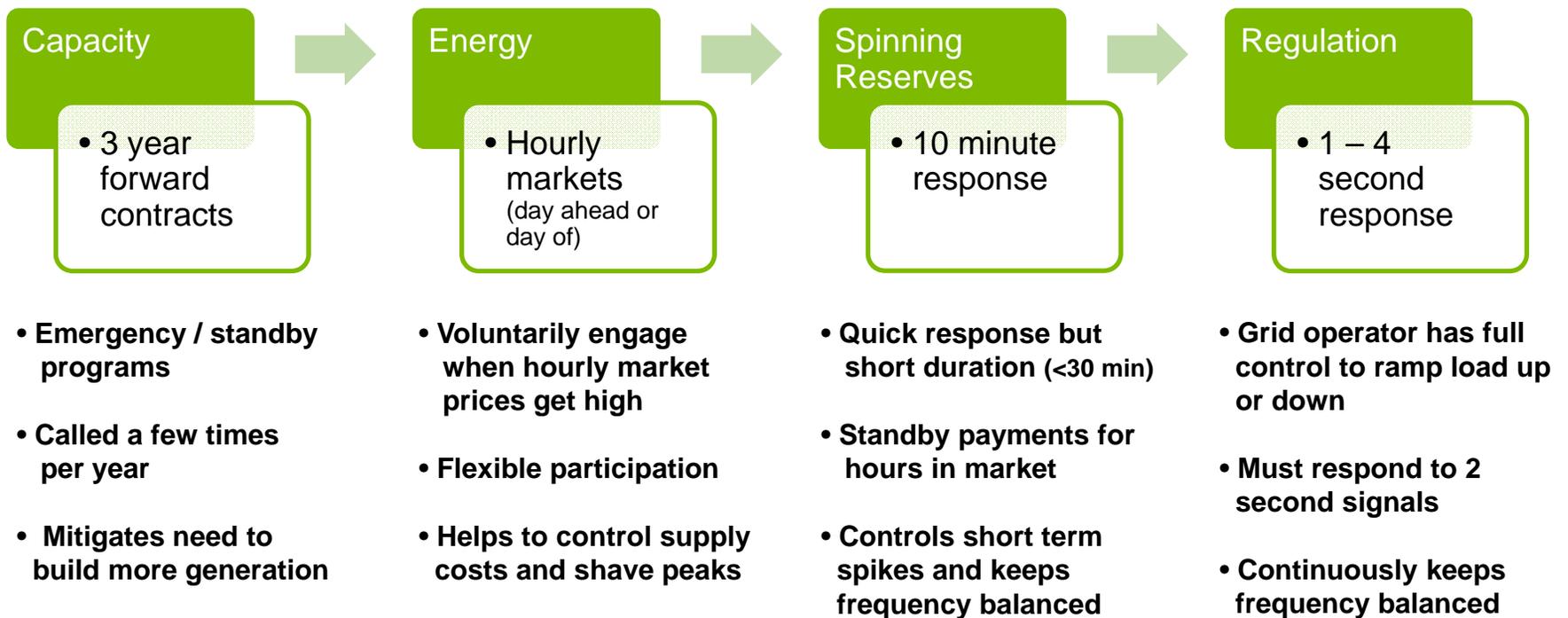
17, June 2013



Evolution of Demand Response to Meet Grid Needs

- Need for DR is evolving to be far more than peak shaving
- DR resources will be used in more advanced and creative ways

Different needs as we get closer to the actual time of consumption



DR Forces – RTO vs. Consumers



RTO needs and energy user desires often at odds with each other



Needs

- Reliability
- Predictability
- Availability
- Quantifiable load impact

Desires

- Flexibility
- Min operational burden
- Easy engagement
- ROI for performance

We Help Bring These Forces Together



Needs

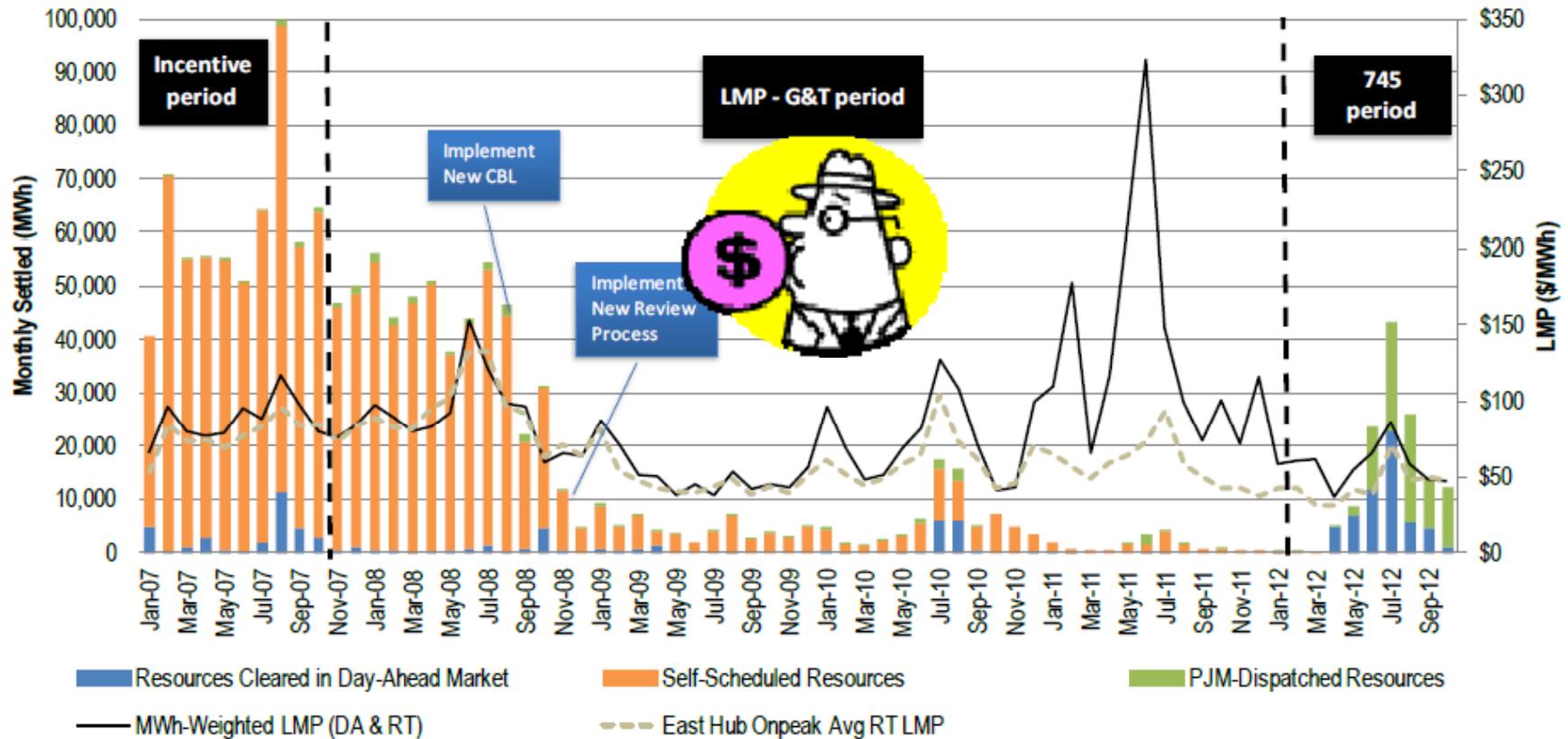
- Reliability
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Desires

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Price Responsive DR – “You Get What You Pay For or Not”

Figure 1: Economic DR settled energy by month (Jan. 2007 - Oct. 2012) ¹¹



Source: PJM

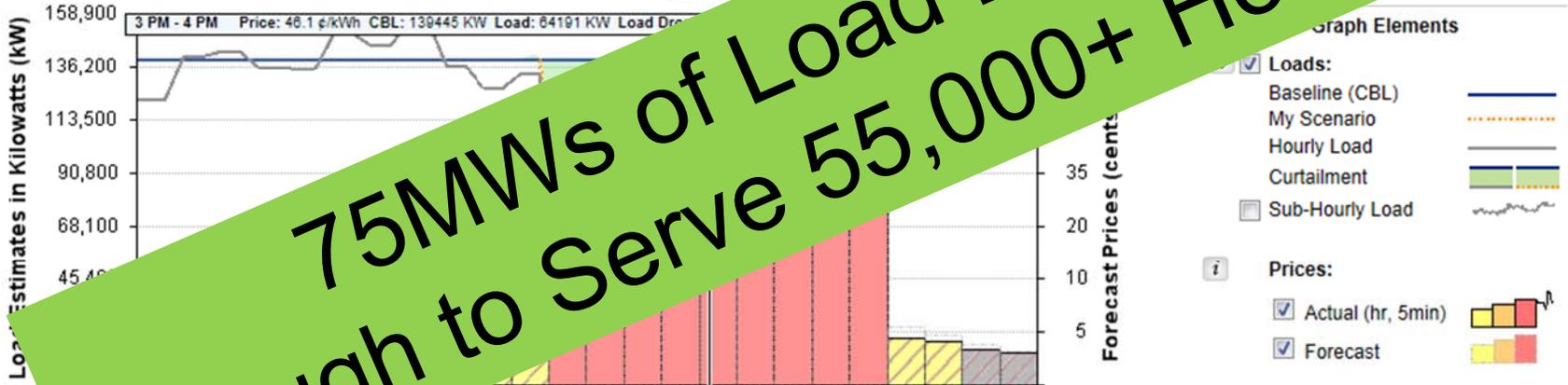
Since 745 was implemented, Economic DR MWh delivered are up and large portion were committed in day-ahead market.

FlexConnect Scheduling

Facility: Date: 6/21/2012

ACT 129 ALERT - EVENT CONFIRMED: [Name] is confirming the ACT 129 Event for the hours below. Please Note: [Name] extended the dispatch hours to include 11am to 12 pm.

Thursday, June 21



**75MWs of Load Drop
Enough to Serve 55,000+ Homes**

Eastern Time Plan to Curtail 8 9 10 11 12:00 1 2 3 4 5 6 7 8 9 10 11 12:00 [Show Detail](#) *

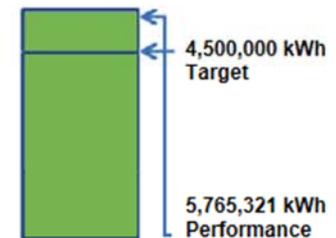
- Earnings** My Selected Scenario
- \$284,040** Melt Shop Shutdown
 - \$18,936 Shut Down Cold Mill
 - \$302,976 MS & CM Shut Down
 - \$118,350 Run #2 EAF (25 Mw)

Submitted Scenario Forecast	
Melt Shop Shutdown	
PJM Earnings	ACT 129 Earnings
\$68,040	\$216,000
Total Opportunity	
\$284,040	

Disclaimer

[Calculation Details](#)

Act 129 Season to Date Performance



Barriers to DR Participation

Design “Inform & Motivate” vs. “Command & Control”

Day

Get Started NOW!

Res

Once you get the “Rules Right”

“Car

It takes 18-36 Months to

Pay

Develop Reliable Demand Resources