

Edison Mission Energy

FERC Technical Conference

Flexible & Local Resources Needed For Reliability in California

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Edison Mission Energy

- Headquartered in Santa Ana, CA
- Subsidiaries own or lease interests in over 40 operating facilities
 - Over 9,000 MW in aggregate; EME's share nearly 8,000 MW
 - Fossil-fuel power plants in CA (CAISO), IL (PJM), WV (PJM) & Turkey
 - One of the largest wind portfolios in the US, including projects in 11 states
- Edison Mission Operation & Maintenance operates 9 natural gas power plants in CA, and many of EME's wind farms
 - Walnut Creek Energy Park -- flexible, efficient 479 MW peaker in LA Basin began 10-year PPA with SCE in June, 2013
- Edison Mission Marketing & Trading, based in Boston, performs hedging, energy trading & asset management
- Currently undergoing financial restructuring which will separate EME from Edison International
 - Normal business operations throughout restructuring process

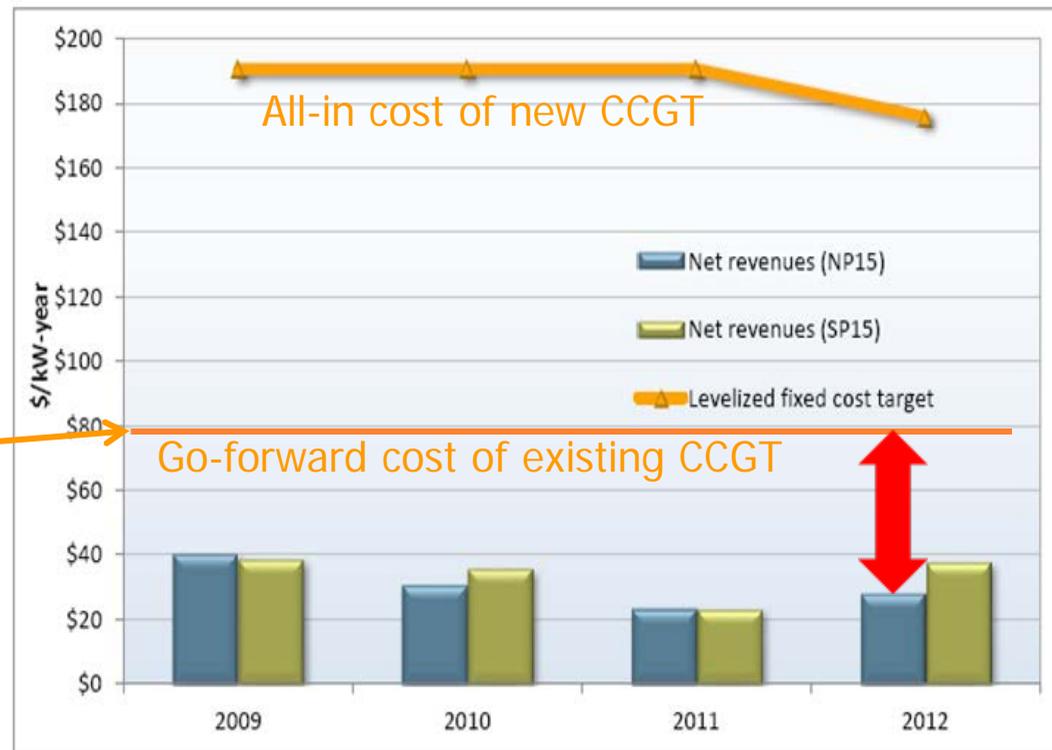
Merchant Energy & RA Markets too Lean

- Policy preference for renewables & demand response has led to significant surplus in RA & energy markets, which has driven market-clearing prices below what is necessary to sustain many generators

Table 1.7 Assumptions for typical new combined cycle unit³⁹

Financial Parameters	
Financing Costs	\$96.7 /kW-yr
Insurance	\$7.3 /kW-yr
Ad Valorem	\$9.6 /kW-yr
Fixed Annual O&M	\$43.7 /kW-yr
Taxes	\$18.5 /kW-yr
Total Fixed Cost Revenue Requirement	\$175.8/kW-yr

Figure 1.24 Estimated net revenue of hypothetical combined cycle unit



Source: CAISO 2012 Annual Report on Market Issues and Performance

Current RA Construct Does Not Support CAISO Reliability Needs

- Rapid and increasing renewable integration continue to exacerbate generator margin pressures for the foreseeable future
- If not addressed, generators likely to stick around are those with the lowest fixed costs, not necessarily those that provide the flexibility that CAISO needs for following load and integrating renewables
 - e.g., Calpine Sutter, EME Sunrise, others...
- Existing flexible resources needed by CAISO could fail to recover their go-forward cost, resulting in “disorderly retirements”
- The US EPA's Reactivation Policy makes temporary mothballing of generation a risky proposition, potentially requiring mothballed generation to be re-permitted and re-offset

Need for Multi-Year Resource Adequacy Construct

- Existing generators, particularly CCGTs, have ~4 year major maintenance cycle requiring substantial plant re-investment
 - Too expensive to recover over a single year at current and projected RA prices and energy margins
 - ❖ Caused by “gap” in forward procurement
- Current bilateral procurement framework does not provide:
 - Transparent forward price signal for capacity
 - Visibility of remaining LSE procurement need to CAISO and Market

CPUC/CAISO Joint Reliability Framework

- Strongly encouraged by joint CAISO/CPUC framework subject to resolving crucial design elements
 - Forward multi-year obligation for LSEs is a key feature
- Areas of concern:
 - “Feathered” procurement obligations
 - Extent of CPUC support for robust LSE participation in the Reliability Services Auction
 - Lengthy CAISO & CPUC stakeholder processes/proceedings
 - ❖ 2016 compliance year implementation could lead to “disorderly retirements” in the interim