

# A planner's view of the role of demand response in meeting resource adequacy requirements

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**Demand Response Workshop  
German Consulate Sponsored Workshop  
October 15, 2013**



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**Q1: What are Resource Adequacy (RA) requirements?**

**A:**

- **Load Serving Entities' requirement to procure qualifying capacity to ensure the system operates reliably**
- **RA requirements are changing and will continue to change over time with the needs of the system**
- **The RA requirements will include a flexible capacity requirement starting in 2015**

**Q2: Should all demand response (DR) programs be modified to provide flexible capacity?**

**A: No, at least for now. See p. 4 for explanation**

## RA requirements change with the needs of the system

- **Today's RA requirements**
  - Procure qualifying capacity = 115% to 117% of forecasted 1-in-2 peak
  - Today's RA requirements can be satisfied with non-flexible capacity
- **Starting in 2015,**
  - A small amount of flexible capacity required (See Appendix)
  - **Flexible requirement =**
    - Largest three-hour contiguous ramp in the month
    - + The larger of the Most Severe Single Contingency, or 3.5% of the month's expected peak load
    - +  $\epsilon$ : Error term to account for uncertainties (set to zero)
- **More changes in RA requirements are likely in the future**
  - Initial flexible requirement may not be enough
  - Downward flexibility requirements
  - Other

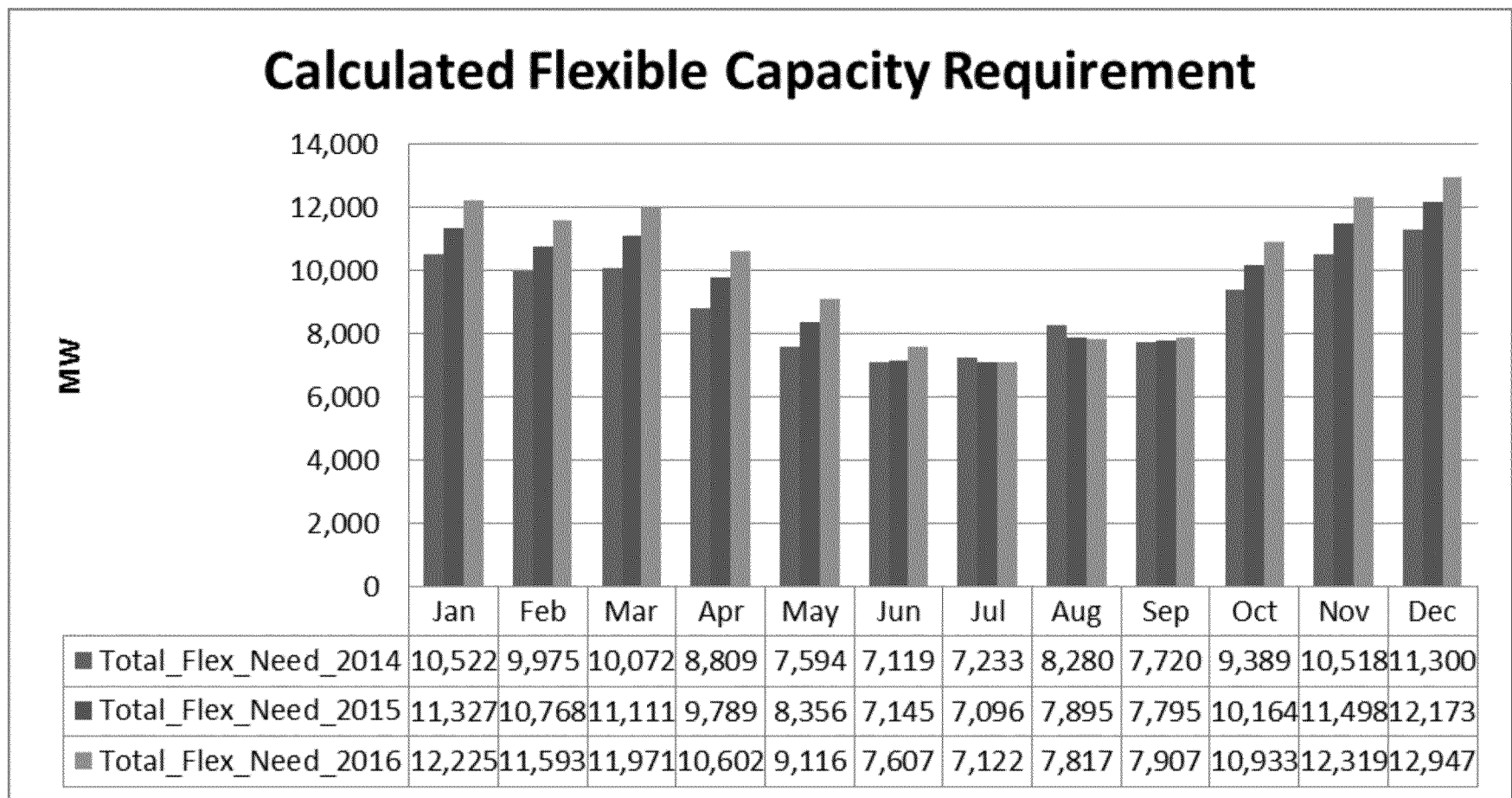
# What's DR's best role of in meeting RA requirements?

**For now, DR's best role is to reduce the residual peak, or for emergencies**

## Why?

- **Summer will continue to be where capacity is needed most**
- **Reducing the peak, also reduces the ramp**
- **Initial 2015-2017 flexible capacity requirements are small**  
( $<20\%$  of summer peak)
- **Existing resources can satisfy 2015-2017 flexibility requirements**
- **More information is needed about additional flexibility requirements to re-design programs for flexibility services**
  - How much more, what type of flexible capacity?
  - What are the operating attributes of the additional flexibility requirements?
  - How fast will the flexibility requirements change?

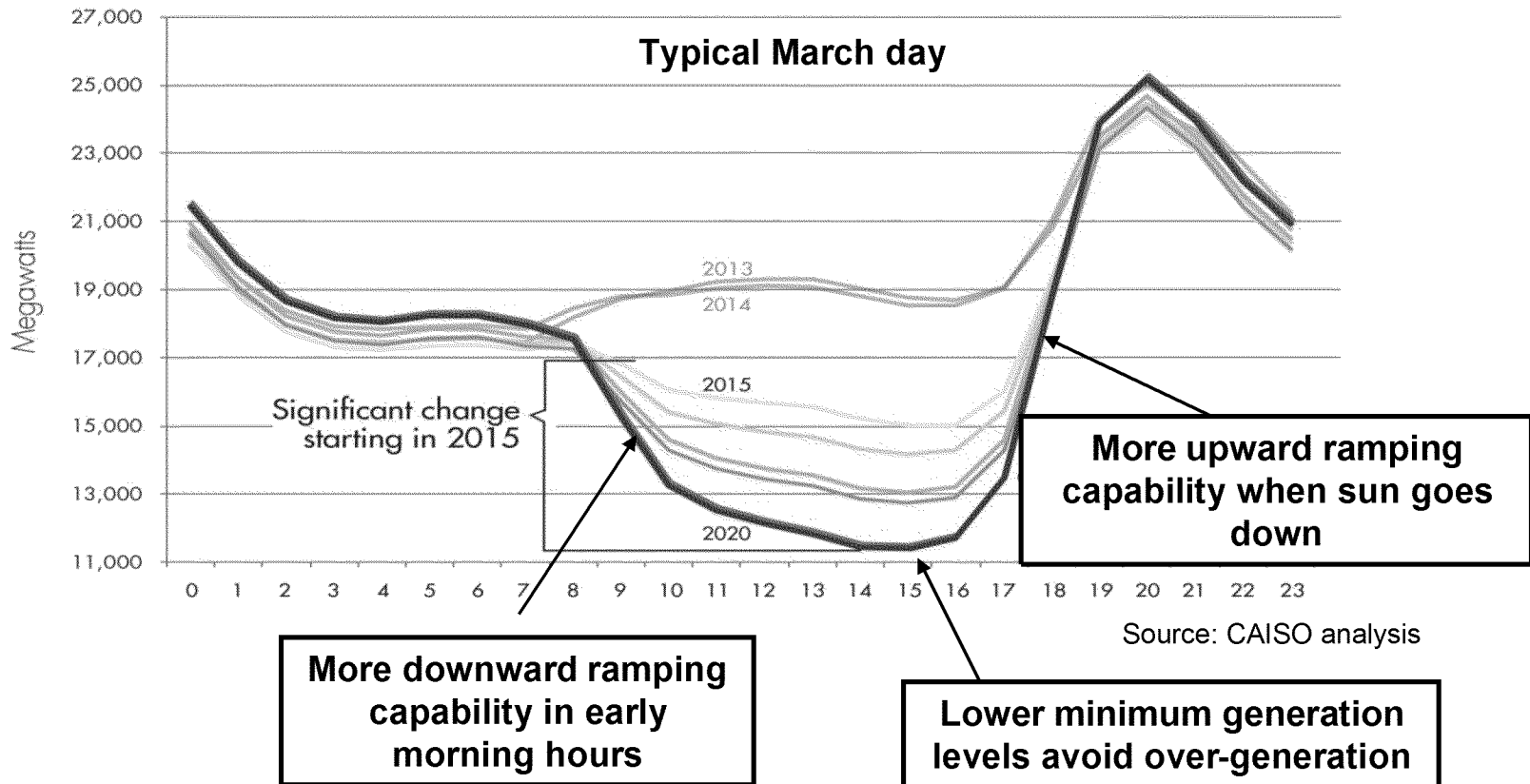
# Appendix: CAISO's Flexible Capacity Requirement Forecast\*



\* **Source:** CAISO's, Flexible Resource Adequacy Criteria and Must-Offer Obligation, Third Revised Straw Proposal, Figure 2, October 3, 2013.

# Appendix: Incorporating flexible RA requirements

- **New RA requirements for flexible capacity are being added to meet the system's higher ramping**



**Does this graph look like a duck?**