

# Comments on draft CERC Ancillary Services

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# Ancillary Services – the vital component in renewable integration

- Ancillary services – a collection of power system services that facilitate electricity transmission and delivery
  - Balancing Services: Comprise of several services that ensure **Demand = Supply** at all times. The services protect against the natural variability and uncertainty in grid operation.
  - Higher renewable penetration requires better balancing service
  - Reliability Services: Services that protect against unexpected grid failures
- Cost of ancillary services is about 1% of wholesale energy costs in restructured markets in the US [1]. This includes only quality (regulation) and reliability (reserve) services, and excludes load following.

# CERC proposal for Ancillary Services – the gaps

- Serves as an “emergency service”: Designed for usage in times of contingencies
  - Earlier draft specified as to what freq. is a trigger (49.7 Hz)
- Does not help in balancing: Not used during normal grid conditions. May not improve the system frequency sufficiently
- Depends on surplus capacity: Surplus capacity will likely not be available during peak periods. The service will not be useful for regions with shortages
  - Unclear how transmission constraints factor in, esp. with dynamics

# CERC proposal for Ancillary Services – the gaps (continued)

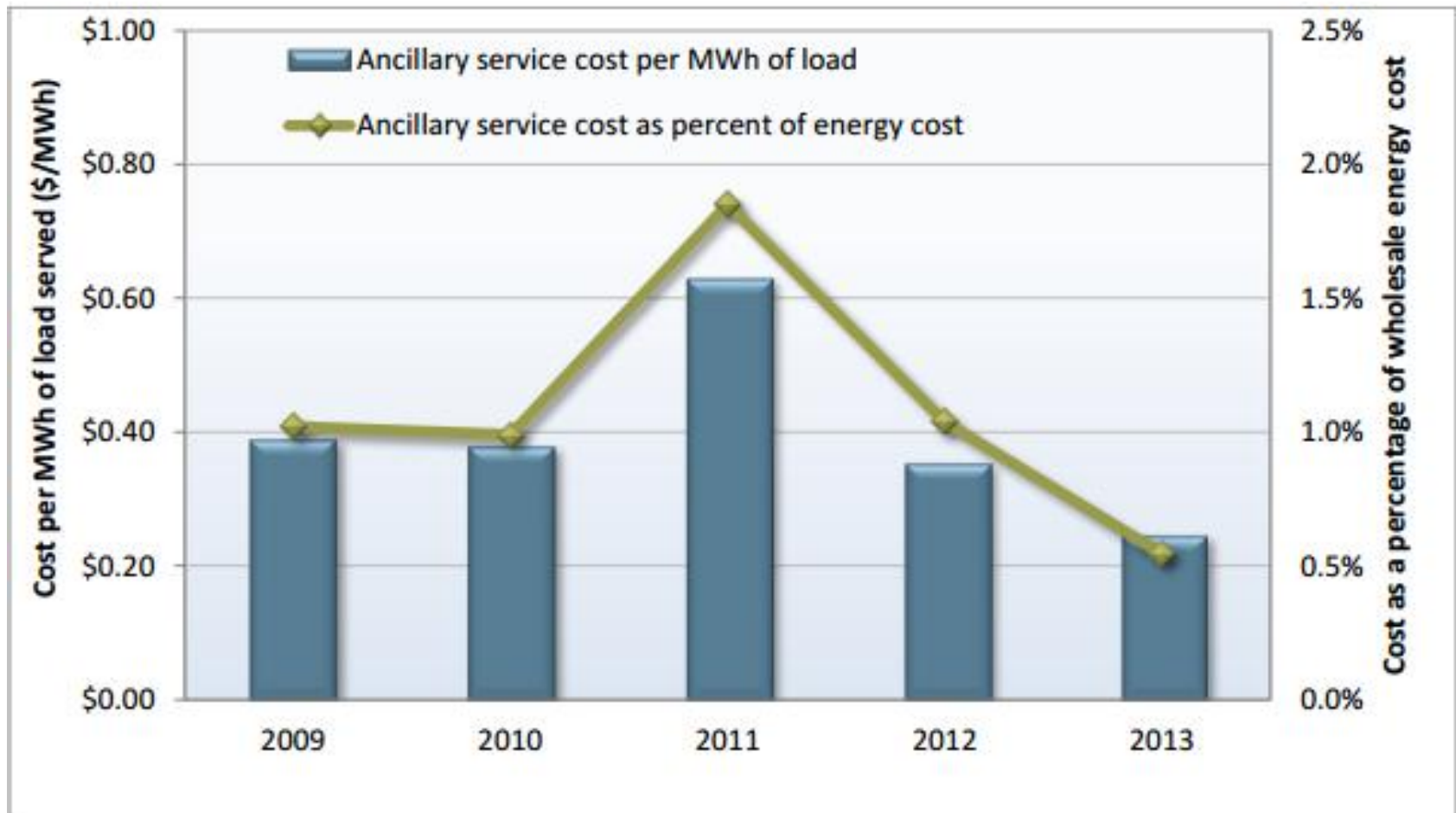
- Regional level implementation: Proposed as a regional level service for ISGS
  - State-level participation and co-ordination must be discussed
- UI mechanism dynamics: The interaction and opportunity costs related to participation in the service as opposed to participating in the UI mechanism must be clarified
- The pricing aspects are unclear (some aspects are left as to be determined) – issues not just of prices but incentives/opportunity costs/etc
  - Critical since many A.S. mechanisms will be best served by new generators of specific characteristics

# Reference

[1] California ISO – Annual Report on Market Issues and Performance 2013

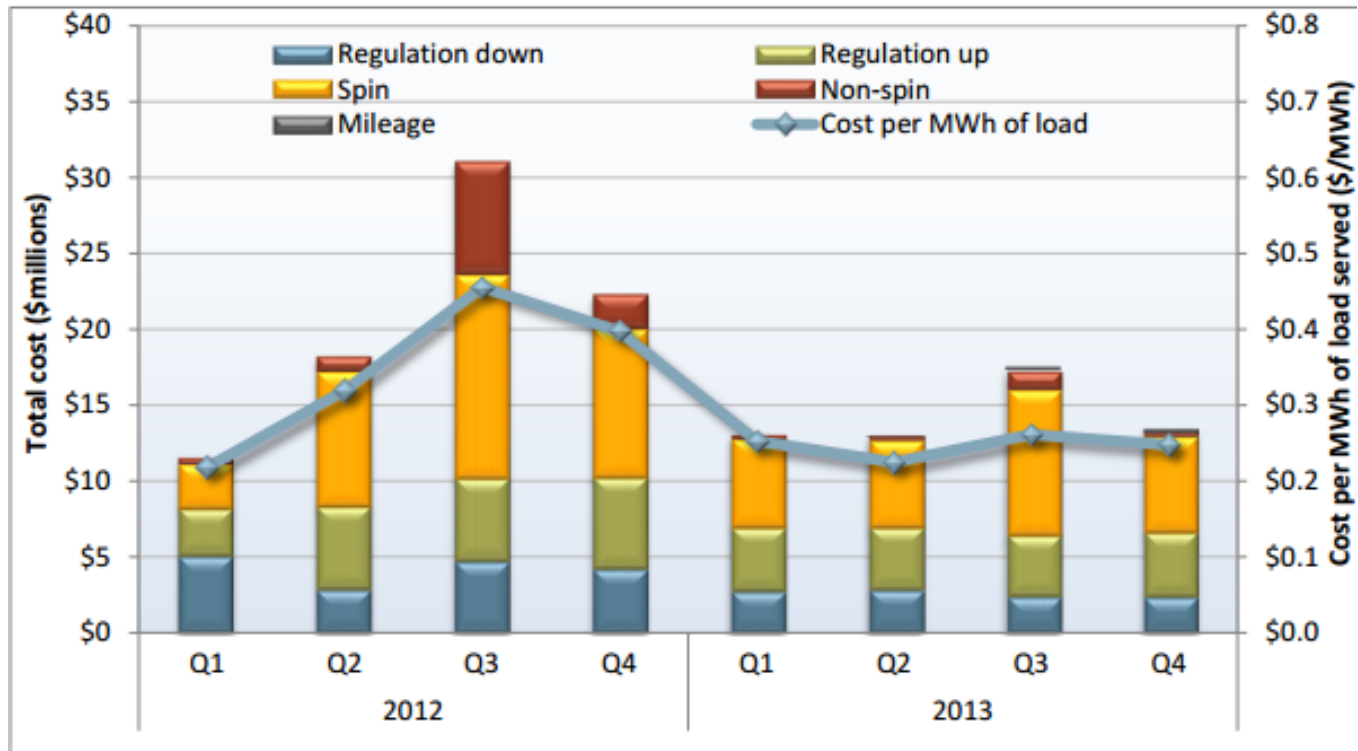
# CAISO – Ancillary Service Cost

Figure E.7 Ancillary service cost as a percentage of wholesale energy cost



# CAISO -Ancillary service cost by product

Figure 6.7 Ancillary service cost by product



- The total estimated wholesale cost of serving load in 2013 was \$10.7 billion or over \$46/MWh (a little under Rs. 2.8/kWh)