

PG&E request that:

- All responses are submitted on or before **Friday, August 12, 2011**.
- If this due date cannot be met PG&E request to be notified of this no later than **Wednesday, August 10, 2011**.
- Please send all questions and responses to the below list of individuals:
  - Mark Huffman: [MRH2@pge.com](mailto:MRH2@pge.com) / 415-973-3842
  - Matthew Gonzales ([MRGg@pge.com](mailto:MRGg@pge.com) / 415-973-8466)
  - Kimberly Jones ([KCJ5@pge.com](mailto:KCJ5@pge.com) / 415-973-8844)

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### Data Request

1. At p. 4, Calpine explains that in the sensitivity analysis it performed “approximately 3,200 MW of uncontracted Calpine combined cycle gas turbine (“CCGT”) capacity was removed from the Step 2 modeling to represent an “economic retirement” scenario in which existing resources shut down because revenues are insufficient to recover going forward costs or do not support investment in maintenance necessary to ensure availability in the future.” Later at p. 12, Calpine notes that for these sensitivities it found the need for approximately 2,600 MW of new replacement capacity in the High Load Trajectory scenario and 1,400 MW in the CPUC-prescribed Trajectory scenario.
  - a. Please provide the workpapers behind the calculation of the replacement capacity amounts for the High Load Trajectory and the Trajectory scenarios.
  - b. Please provide a list of units, their operating characteristics, including min operating capacity, heat rates, ramp rates, installed capacity, and net qualifying capacity of the units that were removed when performing the Step 2 sensitivity?
  - c. Please provide Calpine’s estimate of the going forward cost of these resources, which is not currently being recovered from the market.
2. At p. 3, Calpine recommends that the IOUs be directed to hold intermediate term (3-5 years) resource solicitations for flexible capacity from existing resources. At p. 16, Calpine explains that “the volume of procurement should be sufficient to assure the

continued availability of resources with the flexibility in aggregate that is presumed available from the existing fleet in the CAISO and IOU renewable integration modeling.”

- a. How does Calpine propose the amount of existing capacity needed to be procured be determined?
  - b. Who will determine the procurement requirement and when? For what operating years? For what contract duration?
  - c. Will the amounts change as a function of the operating features of the resources being contracted?
3. At p. 14-15, Calpine notes that there are “[f]lexibility upgrades involve modifications that facilitate the management of these thermal stresses. These flexibility upgrades generally involve changes in hardware and/or operational practices that lower start times, increase ramp rates, and lower minimum operating levels.”
- a. Please provide Calpine’s estimate of the amount and type (ie, whether to provide regulation or load following, and whether in the up or down direction) of flexible capacity available thru the flexibility upgrades mentioned in Calpine’s testimony.
  - b. Please provide Calpine’s estimate of the cost of providing this additional flexibility.