ANALYSIS OF SOUTHERN CALIFORNIA EDISON'S AND PACIFIC GAS AND ELECTRIC'S PHOTOVOLTAIC PROGRAM PRICING RELATIVE TO MARKET PRICE REFERRENT

CPUC Approved Utility Photovoltaic Program Electricity Price

CPUC decision 09-06-049 dated June 18, 2009 gave Southern California Edison Company authority to implement and recover in rates the costs of its 500MW photovoltaic program ("PVP"). CPUC decision 10-04-052 dated April 22, 2010 gave Pacific Gas and Electric Company authority to implement and recover in rates the costs of its 500MW photovoltaic program ("PVP").

SCE's and PG&E's levelized cost of energy ("LCOE") from each their 250MW of utility owned generation (UOG) portion of the program is shown below. This LCOE is expected to be the 20 year average price paid by SCE and by PG&E for up to 250MW each of third party generation capacity developed under the PPA portion of their programs.

Utility	PVP LCOE = Price to be Paid
SCE:	26.0 cents/kWh
PG&E:	24.6 cents/kWh

Time of Day Factor Portion of a PVP Solar Renewable Electricity Price

A recent report, dated April, 2010 (Reference 1) analyzed the time periods and the TOD factors that apply during each time period for the three major California IOUs relative to the energy output from California located ground based fixed angle photovoltaic solar cells located in the different IOU regions. The weighted average utility specific TOD factor for each region was calculated and reflects the hourly generation profile of a representative PV system oriented to the south with a 10 degree tilt. The weighted average TOD factor for each region is calculated by allocating the kWh generated by the representative PV system into each of the applicable TOD time periods for the IOU serving that region.

The weighted average TOD factors calculated in this analysis are as follows:

SCE:	1.288
PG&E (Ex. San Joaquin Valley):	1.281
PG&E (San Joaquin Valley):	1.250

CPUC Approved Equivalent Base Price for PVP Solar Renewable Electricity

The price to be paid by each IOU when adjusted for that IOU's weighted average TOD factor represents the equivalent price offer to which the TOD factors would then apply. This adjusted number can be more easily compared with other base rate offers that are being made and have been approved for renewable energy procurement, such as the

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AB1969 feed in tariff program, since they are typically quoted as a base rate plus TOD.

Utility	Base Price to be Paid (+TOD)
SCE:	20.19 cents/kWh
PG&E (Ex. San Joaquin Valley):	19.20 cents/kWh
PG&E (San Joaquin Valley):	19.68 cents/kWh

AB1969 Feed in Tariff: PG&E price for up to 1.5 MW of Renewable Power

The CPUC determined that PG&E will pay the market price referent (MPR), a per-kWh price that is determined periodically in the renewable portfolio standard proceeding. Below is the most recently adopted MPR for 2010 baseload-type generation (the prices will be adjusted for Time-of-Day factors, which recognize the higher value of power supplied during the on-peak hours, and the lower value of power supplied during the off-peak hours):

Market Price Referents – Contract Term (Nominal - cents/kWh)	
	20-Year
2010 On Line Date: Market Price Referent	9.674

CPUC Approved Premium over MPR for PVP Solar Renewable Electricity Price

The PVP price premium to be paid by each utility compared to this years AB 1969 renewable energy Feed in Tariff price. i.e. the market price referent (“MPR”) is shown below. Clearly the different price offered between the MPR and PVP for the same energy needs to be reconciled to a similar value with the difference being incorporated as part of a new AB 1969 Feed in Tariff price. Fortunately, recent legislation (“SB32”) provides the CPUC with the immediate directive and mechanism to correct this market anomaly.

Utility	MPR	PVP Premium over MPR
SCE:	9.674	10.516 cents/kWh
PG&E (Ex. San Joaquin Valley):	9.674	9.526 cents/kWh
PG&E (San Joaquin Valley):	9.674	10.006 cents/kWh

SB 32 Implications

Utilities have determined a fair price to be paid for distributed small renewable generation capacity (1-2MW) in their markets is approximately 10 cents/kWh above the natural gas based market price referent currently being offered by these same Utilities for similar generation. SB 32 has legislated that the MPR be replaced with a new referent price for small renewable generation that reflects its value and the recent CPUC decisions and Utility’s own cost analysis seems to be supportive of a premium of this magnitude.

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