

Table ES-1 presents an overview of the traditional and non-traditional benefits evaluated and final results. These results are specific to the Kerman plant and its location within the distribution system, as well as PG&E's present economic and regulatory operating environment.

Table ES-1
Kerman PV Plant Benefits Evaluated and Final Results (\$1995)

Non-Traditional Benefits	Benefit Definition & Economics Driver	Technical Results	Economic Results	
			Nominal (\$/kW-yr)	High (\$/kW-yr)
Externalities	<i>Fossil fuel emissions reduction.</i> Driver: Generation fleet fuel mix and externality valuation method	Pollution is reduced by 155 tons of CO ₂ and half a ton of NO _x each year.	30	35
Reliability	<i>Local reliability enhancement.</i> Driver: Postpone planned expenditures to improve reliability	Voltage support is predictable and almost 3 V provided (on a 120-V base). Testing proves customer outage time can be reduced.	5	5
Loss Savings	<i>Real and reactive loss savings.</i> Driver: PV plant capacity factor and interconnection location	Real energy losses reduced by 58,500 kWh/yr (or 5% of plant output). Reactive power losses reduced by 350 kVAR.	15	15
Feeder	<i>Feeder/conductor upgrade deferral.</i> Driver: Magnitude of planned upgrade expenditures and load growth rate	Feeder capacity increased by 320 kW on peak. (Economic value is zero because no upgrades are planned for the Kerman feeder.)	0	0
Substation	<i>Transformer replacement and load-tap-changer maintenance deferral.</i> Driver: Magnitude of planned upgrade expenditures and load growth rate	Transformer cooled by more than 4°C and its capacity increased by 410 kW on peak day. Load-tap-changer maintenance interval extended by more than 10 years.	15	90
Transmission	<i>Transmission capacity deferral.</i> Driver: Marginal cost of transmission capacity	Transmission system capacity increased by 450 kW on peak.	45	45
Minimum Load	<i>Power plant dispatch savings.</i> Driver: Marginal cost of keeping peak load-following units on line	Minimum load savings confirmed. PV plant delivers 90% PV capacity coincident with peak load-following unit dispatch.	30	30
Traditional Benefits				
Traditional Benefits	Benefit Definition & Economics Driver	Technical Results	Nominal (\$/kW-yr)	High (\$/kW-yr)
Capacity	<i>System reliability enhancement.</i> Driver: Utility need for capacity to improve system reliability	Generation system capacity increased by 385 kW (ELCC about 77%).	10	50
Energy	<i>Energy generation displacement.</i> Driver: Fuel price of avoided energy generation resource	Plant achieved about 25% capacity factor, over 1,080 MWh/yr, highly correlated to PG&E loads.	145	155
TOTAL VALUE			295	425