COSTS RELATED TO PHOTOVOLTAIC CONTINUOUS POWER PROPOSAL

Purchased po

SOME NUMBERS WHICH MIGHT BE USEFUL

Sikeston	Annual capital cost per MW	$196,654	
	Energy cost per MWH	$21.67	
System Demand FY 2012		1,174,648	MWH
Retail sales FY 2012		########	
	3% for renewables	$3,422,000	

Power Purchase proposal

cost per MWH	$53.20
capital cost at 55%	$29.26
energy cost at 45%	$23.94

Demand Above	MWH of Annual Demand Demand	MW generation net demand	demand interval	
0	1,172,234			
81	462,789	20 162,426	81-101 MW	
101	300,363			
121	171,308	40 291,481	81-121 MW	
141	93,729	20 77,579	121-141 MW	Sikeston
		40 206,634	101-141 MW	

PHOTOVOLTAIC proposal

cost to Free Power Co. in 2016	$57.88	per MWH

MWH which can beused at 20 MWH continuously

Started at demand level 81 MW	175200
Started at demand level 121 only 19.5 MWH continuously	170820

Difference from demand within a 20 MW interval

Started at demand level 81 MW	12,774
Started at demand level 121	93,241

PHOTOVOLTA

Payme

Savings

Total co

Cost comparis

wer cost
assumptions
Used between 81 and 101 MW of demand

	capital cost	$29.26	at 55% of total $ / MWH
	energy cost	$23.34	at 45% of total $/MWH

$4,752,584.76	Annual Capital Cost
$3,791,022.84	Annual energy cost
$8,543,607.60	Total annual cost

Used between 121 and 141 MW of demand
Annual Capital cost as above
$/MWH energy cost as above

$4,752,584.76	Annual Capital Cost
$1,810,693.86	Annual energy cost
$6,563,278.62	Total annual cost
$1,980,328.98	Difference between use in different demand intervals

assumptions
calculations for the first 40 MW only

$7,866,160	Annual capital Cost

Used between 81 and 121 MW of demand

$6,316,393.27	Annual energy cost
$14,182,553.27	Total Annual Cost

Used between 101 and 141 MW of demand

$4,477,758.78	Annual energy cost
$9,230,343.54	Total Annual Cost
$4,952,209.73	Difference between use in different demand intervals

IC proposal

nts to the Free Power Compan

$10,140,576.00	used over 81 MW of demand
$9,887,061.60	used over 121 MW of demand

s using MISO for "storage"

$530,606.24	used over 81 MW of demand
-$1,054,242.24	used over 121 MW of demand

osts

$9,609,969.76	used over 81 MW of demand
$10,941,303.84	used over 121 MW of demand

Cost comparis

sons

Starting use a

Photovoltaic vs Power Purchase Agreement

Starting use at 81 MW of demand

$9,609,969.76	Photovoltaic annual cost
$276,812.58	Reduction in Sikeston costs of energy due to covering additional demand
$9,333,157.18	Adjusted Photovoltaic Annual Cost
$8,543,607.60	Pourchased Power annual cost
$789,549.58	Difference in annual costs

Starting use at 121 MW of demand

$10,941,303.84	Photovoltaic annual cost
$2,020,532.47	Reduction in peaking energy using Sikeston energy cost value
$8,920,771.37	Adjusted Photovoltaic Annual Cost
$8,543,607.60	Pourchased Power annual cost
$377,163.77	Difference in annual costs

Impact on renewable energy

Starting use at 81 MW of demand

0.69%	of retail sales
14.92%	of total energy demand

Impact on rer

Starting use at 121 MW of demand

0.33%	of retail sales
14.54%	of total energy demand

sons between Photovoltaics and the Power Purchase Agreement

at 81 MW of demand

Starting use at 81 MW of demand

175,200	MWH of photovoltaic energy from 132.2 MW equivalent to 20 MW every hour of the year
$9,609,969.76	Photovoltaic annual cost
$276,812.58	Reduction in Sikeston costs of energy due to covering additional demand
$9,333,157.18	Adjusted Photovoltaic Annual Cost
$8,543,607.60	Pourchased Power annual cost
$789,549.58	Difference in annual costs

Starting use at 121 MW of demand

170,820	MWH of photovoltaic energy from 128.895 MW equivalent to 19.5 MW every hour of the year
$10,941,303.84	Photovoltaic annual cost
$2,020,532.47	Reduction in peaking energy using Sikeston energy cost value
$8,920,771.37	Adjusted Photovoltaic Annual Cost
$8,543,607.60	Pourchased Power annual cost
$377,163.77	Difference in annual costs

newable energy

Starting use at 81 MW of demand

0.69%	of retail sales
14.92%	of total energy demand

Starting use at 121 MW of demand

0.33%	of retail sales
14.54%	of total energy demand