



El Paso Electric Company Integrated Resource Planning

February 22, 2012



In previous meetings we have discussed the pros and cons of several generation options which include:

- **Build vs. Buy**
- **Unit Replacement vs. Unit Life Extension**



We have also discussed pros and cons of various technologies:

- **Gas-fired Generation**
- **Coal-fired Generation**
- **Nuclear Generation**
- **Solar Generation**
- **Wind Generation**
- **Biomass Generation**

PRELIMINARY SCREENING ANALYSIS TABLE

<i>Type</i>	<i>Size (MW)</i>	<i>Capacity Factor (%)</i>	<i>Commercial Service Year</i>	<i>Capital Costs (\$/kW)</i>	<i>Total PW Levelized Costs (\$/MWh)</i>
Solar Parabolic Trough (75% Solar, 25% Fossil)	80	34	2015	4,300	159
Solar Photovoltaic	25-100	27	2013	6,596	66-330
Wind Turbine (2 MW x 50, Variable Speed)	100	38	2014	1,902	91
Biomass - Landfill Gas	5-15	85	2014	2,346	71-102
Geothermal	60	90	2015	4,022	133
Simple Cycle LM6000	53	25	2014	1,409	205
Simple Cycle LMS100	97	25	2014	1,464	96-175
Natural Gas Combined Cycle 2 x1 7EA	253	85	2016	1,917	62-112
Natural Gas Combined Cycle 1 x1 7FA	238	85	2016	2,040	56-113
Fuel Cell	25	30	2014	1,416	147
Coal	800	85	2019	3,073	98
Nuclear	1,115	90	2022	2,900	75

Note: All cost provided on this table were taken from the Electric Power Research Institute (EPRI) and from recent RFP proposals received by EPE.

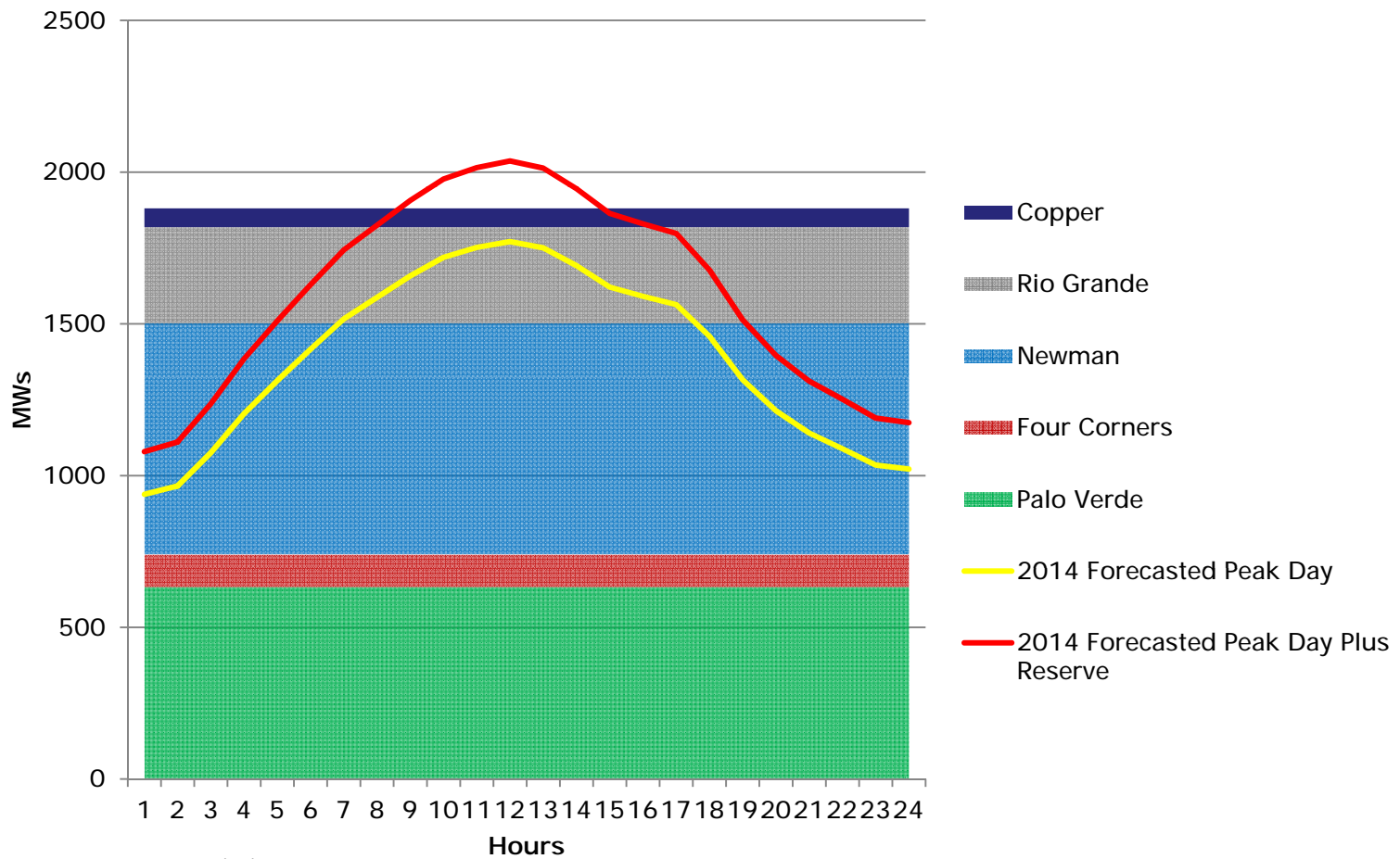


Preliminary Screening Analysis Table Notes

1. The table reflects Preliminary Results for screening purposes only
2. The table does not reflect any EPE specific unit cost information (information provided by EPRI and other sources)
3. The Capacity Factors were based assuming EPE's typical operation of particular unit
4. Although Commercial In-Service Year varies, all costs are in 2011 dollars
5. Capital costs include AFUDC, escalations, and contingency costs.
6. The Total Present Worth Levelized Costs are based on 30 years at a discount rate of 8.1% (after tax)



2014 Forecasted Load Profile for a Summer Day



Note: Profile data from 06/18/2010 and escalated to 2014



RFP Results

In 2011 EPE issued a Request for Proposals (RFP) for peaking generation resources that are required in the near future. The following options are a result of an extensive RFP evaluation process.

- 2014 – 1 Solar Project (48.5MW)
1 LMS100 Peaking Unit (88MW)
- 2015 – 1 LMS100 Peaking Unit (88MW)
- 2016 – 2 LMS100 Peaking Unit (176MW)

- ❖ The results for the 2011 Peaking RFP shown here will be filed and are subject to regulatory approval



Evaluating Generation Needs for 2017 and Beyond

solar LMS100 Macho LMS100 LMS100 LMS100

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1.0 GENERATION RESOURCES ⁽¹⁾	1,797	1,884	1,971	2,013	2,111	2,003	1,730	1,730	1,559	1,559
1.1 RIO GRANDE	229	229	229	184	184	184	138	138	138	138
1.2 NEWMAN	762	762	762	762	686	686	459	459	288	288
1.3 FOUR CORNERS	108	108	108	108	108	-	-	-	-	-
1.4 COPPER	62	62	62	62	62	62	62	62	62	62
1.5 PALO VERDE	633	633	633	633	633	633	633	633	633	633
1.6 WIND/SOLAR (renewables)	3	3	3	3	3	3	3	3	3	3
1.7 NEW BUILD (local)	-	87	174	261	435	435	435	435	435	435
1.0 TOTAL GENERATION RESOURCES	1,797	1,884	1,971	2,013	2,111	2,003	1,730	1,730	1,559	1,559
2.0 RESOURCE PURCHASES	114	111	137	147	137	170	175	175	142	175
2.1 MARKET BLOCK PURCHASE	40	40	40	40	40	40	40	40	40	40
2.2 RENEWABLE PURCHASE (SunEdison & NRG)	37	37	37	37	37	37	37	37	37	37
2.3 RENEWABLE PURCHASE (Macho Springs)	-	-	41	41	41	41	41	41	41	41
2.4 RENEWABLE PURCHASE (Hatch)	4	4	4	4	4	4	4	4	4	4
2.5 RENEWABLE PURCHASE (Biomass)	-	-	15	15	15	15	20	20	20	20
2.6 RESOURCE PURCHASE	33	30	-	10	-	33	33	33	-	33
3.0 TOTAL NET RESOURCES (1.0 + 2.0)	1,911	1,995	2,108	2,160	2,248	2,173	1,905	1,905	1,701	1,734
4.0 SYSTEM DEMAND ⁽³⁾	1,658	1,722	1,771	1,831	1,889	1,940	1,988	2,028	2,072	2,153
4.1 NATIVE SYSTEM DEMAND	1,738	1,810	1,865	1,932	1,996	2,056	2,114	2,163	2,217	2,283
4.2 CLMCOG	(23)	(28)	(33)	(37)	(41)	(47)	(53)	(58)	(64)	(69)
4.3 LINE LOSSES	1	1	1	1	1	1	1	1	1	1
4.4 INTERRUPTIBLE SALES	(57)	(58)	(58)	(59)	(59)	(60)	(61)	(61)	(61)	(62)
4.5 CUSTOMER OWNED SOLAR	(1)	(3)	(4)	(6)	(8)	(10)	(13)	(17)	(21)	(25)
5.0 TOTAL SYSTEM DEMAND (4.0)	1,658	1,722	1,771	1,831	1,889	1,940	1,988	2,028	2,072	2,153
6.0 MARGIN OVER TOTAL DEMAND (3.0 - 5.0)	253	273	337	329	359	233	(83)	(123)	(371)	(419)
7.0 PLANNING RESERVE 15%	249	258	266	275	283	291	298	304	311	323
8.0 MARGIN OVER RESERVE (6.0 - 7.0)	4	15	72	55	76	(58)	(381)	(427)	(682)	(742)
9.0 DEMAND PLUS RESERVE (5.0 + 7.0)	1,907	1,980	2,037	2,106	2,172	2,231	2,286	2,332	2,383	2,476

<i>Type</i>	<i>Size (MW)</i>	<i>Customer Preference</i>	<i>Comments</i>
Solar Parabolic Trough	80		
Solar Photovoltaic	25		
Wind	100		
Biomass	5		
Geothermal	60		
Natural Gas Combined Cycle 2 x1 7EA	253		
Natural Gas Combined Cycle 1 x1 7FA	238		
Simple Cycle LM 6000	53		
Simple Cycle LMS100	97		
Fuel Cells	25		
Coal	800*		
Nuclear	1,115*		
Other			

Customer preference: High - 3, Medium - 2, Low -1

Customer Name:

Customer Phone Number and email address:

* EPE would own a portion of Coal and Nuclear generation and assets