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California Energy Commission
2009 Integrated Energy Policy Report
Docket Number 09-IEP-1C

The following spreadsheets are the California Energy Commission (Energy Commission) forms for collecting data and analyses relating to electricity demand. The Energy Commission's statues and regulations specify that a broad array of information can be collected and analyzed to prepare the ***Integrated Energy Policy Report***. Specifically, Public Resources Code (PRC) Section 25301 directs the Energy Commission to conduct regular assessments of all aspects of energy demand and supply to that it may develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety. To carry out these assessments the Energy Commission may require submission of data from market participants in California:

To perform these assessments and forecasts, the Energy Commission may require submission of demand forecasts, resource plans, market assessments, and related outlooks from electric and natural gas utilities, transportation fuel and technology suppliers, and other market participants. PRC 25301(a)

Submittal Format

Parties are requested to submit a diskette or compact disk containing:
data from Forms 1, 2, 3, 6, 7, and 8, and
reports on Forms 4 and 5 in Word or Acrobat.

Data with no confidentiality request should be sent to:
California Energy Commission
Docket Office
Attn: Docket 09-IEP-1C
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
or email to: Docket@energy.state.ca.us. Please include "Docket #09-IEP-1C Demand Forecast", in the subject line.

If you are requesting confidentiality, please review the detailed instructions.

To expedite the forecast comparison and review process, an Excel template with formats for each form in 1, 2, and 3 is provided. While it is preferred that filers use this template, participants may provide these results in their own format as long as the equivalent information is provided and the information is clearly labeled.

Due Date: **All** **Friday, February 13, 2009**

The data do not have to be distributed to the IEPR service list.

Technical questions relating to the electricity demand forecast should be directed to Chris Kavalec (916) 654-5184 or Tom Gorin (916) 654-4759 of the Demand Analysis Office or by email at ckavalec@energy.state.ca.us or tgorin@energy.state.ca.us.

09-IEP-1C Demand Forecast From 4
City of Santa Clara
Silicon Valley Power
Demand and Energy Forecast – 2009-2020
January 2009

1. Introduction

This forecast represents Silicon Valley Power's (SVP) assessment of future loads. It is based on historical data and assessment of future growth potential. Three energy forecast scenarios and three demand forecast scenarios have been produced. The results of these forecast scenarios are compared to the demand and energy forecast underlying SVP's 2009-2010 budget submitted in January 2009. Overall, the expectation is for a somewhat slow growth in the near-term due to the current economic downturn, and modest growth thereafter consistent with historical trends.

2. Forecast Methodology and Scenario Selections

The basic approach to this energy forecast was to develop an expected case (Base Case), with optimistic and pessimistic variations (High Case and Low Case) from the expected case based on plausible alternate assumptions. These three cases are shown in Table 1.

Calendar Year	Low Case	Base Case	High Case
2009	3,004.8	3,034.9	3,055.1
2010	3,029.8	3,073.4	3,208.9
2011	3,054.9	3,124.5	3,270.0
2012	3,080.3	3,164.1	3,320.7
2013	3,105.9	3,204.3	3,370.5
2014	3,131.6	3,245.0	3,421.1
2015	3,157.6	3,286.2	3,472.4
2016	3,183.8	3,328.0	3,524.5
2017	3,210.3	3,370.2	3,577.3
2018	3,236.9	3,413.0	3,631.0
2019	3,263.8	3,456.4	3,685.5
2020	3,290.9	3,500.3	3,740.7

Table 1

For each energy forecast scenario, we developed the corresponding annual peak demand scenarios shown in Table 2. These annual peak demands were derived by applying the three year average monthly system load factors from 2006 to 2008, to the forecasted monthly energy values. This approach was taken to eliminate and to normalize any affects that weather or any other factors may have on the overall system activity.

Calendar Year	Low Case	Base Case	High Case
2009	472.2	476.9	485.2
2010	476.1	483.0	508.8
2011	480.1	491.0	520.2
2012	484.0	497.2	528.1
2013	488.1	503.5	536.0
2014	492.1	509.9	544.0
2015	496.2	516.4	552.2
2016	500.3	523.0	560.5
2017	504.5	529.6	568.9
2018	508.7	536.3	577.4
2019	512.9	543.1	586.1
2020	517.1	550.0	594.8

Table 2

3. Base Case Energy Forecast

The Base Case reflects various historical trends and SVP's assessment of area economic outlooks and information received from major customers. These are quantified as follows: In the period from 2008 to 2011, we applied annual growths of 1.0%, 1.27% and 1.66%, reflecting the current grim economic outlook, with some modest recovery in the following 24 to 36 months; thereafter, we applied a 1.27% annual growth.

These growth patterns are consistent with SVP's historical long-term trends. The 1.0% annual growth assumption is based on SVP's recorded energy consumption from 1990 to 2000, which grew at approximately 1.0% per year. Also at this time, Santa Clara's population grew at roughly 1.0% per year. This time period takes into account the system's greatest gains, from 1995 to 2000, at almost 3.0% per year, and the slight recession that occurred from 1990 to 1995 at –1.0% per year. From 2000 to 2007, SVP system growth was approximately 1.27%, which includes the economic downturn from 2000 to 2003, and the slightly aggressive system recovery from 2003 to 2007. We derived our 1.66% growth rate by normalizing a curve using values from 1998 to 2000 with 2006 and 2007. This eliminated the "valley" of data points that occurred between 2000 to2006. We are slightly optimistic that the system will grow at 1.27% thereafter, only slightly greater than the historical 1.0% rate.

4. High Case Energy Forecast

The utility is currently processing potentially 46.7 MW of new block load applications in the next 29 months. Due to the potential of this load addition, we developed the High Case energy forecast and corresponding demand scenarios. Once the loads have been added to the system after 2011, we applied a 1.5% annual system growth subsequently, which reflects long-term demand growth rates that occurred during the periods of 1999 to 2008, and 2002-2007.

5. Low Case Energy Forecast

Because economic recovery in Silicon Valley has not been at all robust during the last three years, and if the current economic downturn continues, then SVP sales may respond more slowly than portrayed in the Base Case and High Case energy scenarios. A Low Case scenario is needed to quantify this view. Considering the substantial investment SVP has in energy efficiency, and the increased interest and availability of the installation of solar power systems in the business and home, it is plausible that low growth rates could result even with modest economic recovery. In all likelihood, the growth rate for the low case would reflect some modified long-term trends where the growth rate is less than 1%. For this scenario, we projected zero growth from 2009 to 2010, and a 0.73% growth thereafter.

6. Peak Demand Scenarios

As noted above, for each energy forecast scenario, we developed the corresponding annual peak demand scenarios shown in Table 2. These annual peak demands are derived by applying the three year monthly average load factors from 2006 to 2008. This approach was taken to eliminate and to normalize any affects that weather or any other factors may have on the system. As was stated in our previous reports, this approach has the effect of dampening weather impacts and may not accurately portray the load shape impact of economic recovery – which we expect to occur, or higher-than-normal high temperatures, which we also expect to occur. Moreover, we believe that the economic downturn may reduce the need to provide air condition and computers, and cumulative energy efficiency improvements financed through SVP's Public Benefits Program are likely to have further reduced peak demands. Therefore, in an economic recovery, it is possible that prior peak usage patterns may re-emerge.

Attachment 1

Calendar Year	Recorded Peak Demand	Historical Consumption	City of SantaClara Population
1990	400.00	2,437.29	93,754
1991	384.90	2,363.73	94,925
1992	373.50	2,362.21	94,673
1993	393.40	2,351.80	96,125
1994	381.60	2,309.97	96,918
1995	396.70	2,332.78	97,964
1996	411.60	2,481.89	97,982
1997	427.00	2,574.70	100,030
1998	443.80	2,621.71	101,877
1999	426.20	2,567.25	102,682
2000	456.90	2,701.62	102,895
2001	437.80	2,615.99	104,616
2002	419.00	2,538.72	104,306
2003	407.20	2,498.33	105,831
2004	399.70	2538.28	105,831
2005	415.40	2645.16	107,200
2006	486.50	2878.75	109,106
2007	452.00	2953.84	110,771
2008	489.90	3004.75	115,503
YRLY GRWTH Rate:1990-2000	1.34%	1.03%	0.93%
YRLY GRWTH Rate:1992-2002	1.16%	0.72%	
YRLY GRWTH Rate:1990-1995	-0.17%	-0.87%	0.88%
YRLY GRWTH Rate:1995-2000	2.87%	2.98%	0.99%
YRLY GRWTH Rate:2000-2003	-3.77%	-2.61%	0.94%

SILICON VALLEY POWER
1500 WARBURTON AVE
SANTA CLARA, CA 95050

Form 1.1 RETAIL SALES OF ELECTRICITY BY CLASS OR SECTOR – Enclosed is Silicon Valley Power's (SVP) historical breakdown of retail sales by class. Information is provided on a fiscal year basis, except 1990 which is calendar year. Data under street lighting includes all energy sold under SVP's municipal and unmetered accounts. SVP does not forecast sales by customer class and does not use this data in its forecast. Rather, SVP forecasts sales in total, because SVP's small size (relative, for example, to PG&E) and customer make-up (87% industrial) permits this forecast simplification without unduly affecting forecast accuracy or usefulness.

Form 1.2 NET DISTRIBUTION AREA NET ELECTRICITY GENERATION LOAD – Enclosed is SVP's submission, which is derived from Form 1.1. Only total system load information, including losses is provided. All other requested information identified in the form is not available.

Form 1.3 LSE COINCIDENT PEAK DEMAND BY SECTOR - Data is not available by sectors as identified in the form. SVP does not break up coincident peak demand by sector and does not use this information in their forecast methodology. SVP produces and uses a forecast for total system peak loads. Historical and forecasted total system peak loads is provided.

Form 1.4 DISTRIBUTION AREA COINCIDENT PEAK DEMAND - Data is not available by distribution areas as identified in the form. Historical and forecasted total system peak loads is provided. SVP serves only the city of Santa Clara, which is one homogenous distribution area, and does not break up coincident peak demand into other distribution areas.

Form 1.5 PEAK DEMAND WEATHER SCENARIOS - SVP's load forecasts are not weather-adjusted. By applying an average load factor to the forecasted monthly energy values, weather effects are inherently averaged.

Form 1.6a DISTRIBUTION AREA HOURLY LOAD – In reference to Form 1.4 above, data is not available by distribution area. Also, SVP does not forecast hourly loads. However, SVP employs a software program that produces future hourly resource energy dispatch based on our monthly energy load forecast. This energy resource dispatch model for our load forecasts was based on SVP's most currently recorded hourly system loads for calendar year 2008. We are attaching SVP's recorded hourly system loads for calendar year 2007, 2008 and the forecasted 2010 load in a format produced by our software in tab named **1.6a-Hourly Loads**. Our software is not capable of producing the hourly output as requested. All other requested information identified in the original form is not available.

Form 1.6b HOURLY LOADS BY TRANSMISSION PLANNING SUBAREA – Data is not available as identified in the form.

Form 1.7 LOCAL PRIVATE SUPPLY BY SECTOR OR CLASS – There is one significant private cogenerator in SVP territory, which sells any output in excess of the cogenerator's native load requirement to PG&E. SVP provides wheeling and standby electric service to this cogenerator. SVP's demand forecast reflects this cogenerator only to the extent that this cogenerator's use of our standby electric service arrangement is reflected in historical data. There are also a limited number of photovoltaic installations in SVP territory. Their impact on historical results is minimal, and we do not explicitly reflect them on a forecast basis.

Form 2.1 STATE OR NATIONAL ECONOMIC AND DEMOGRAPHIC INPUTS - SVP did not use national or statewide economic and demographic projections of the type contemplated in Form 2.1 to develop its forecast. Rather, the most relevant economic input is estimated to be specific "block load" service requests (see SVP's response to Form 4).

Form 2.2 PLANNING AREA ECONOMIC AND DEMOGRAPHIC ASSUMPTIONS - SVP has selected data available for submission. However, SVP does not use these planning area economic and demographic variables to develop its forecast. Rather, the most relevant economic input is estimated to be specific "block load" service requests (see SVP's response to Form 4).

Form 2.3 ELECTRICITY RATE FORECAST AND NATURAL GAS PRICE FORECAST – SVP does not use electric rate or gas price forecasts to develop its demand forecast. Rather, the most relevant economic input is estimated to be specific "block load" service requests (see SVP's response to Form 4).

Form 2.4 CUSTOMER COUNT & OTHER FORECASTING INPUTS – SVP does not forecast future customer count, and does not use these variables to develop its forecast. However, SVP has selected information available for submission. Historical average number of customers per year has been provided to fulfill the request identified in the form. Information is provided on a fiscal year basis, except for 1990, which is calendar year. Category "Other" includes unmetered and municipal customers.

Form 3.1a EFFICIENCY PROGRAM FIRST YEAR COSTS AND IMPACTS – Information is currently unavailable and is forthcoming.

Form 3.1b EFFICIENCY PROGRAM COSTS BY COST CATEGORY (2005$) – Information is currently unavailable and is forthcoming.

Form 3.2 EFFICIENCY PROGRAM CUMULATIVE IMPACTS – Information is currently unavailable and is forthcoming.

Form 3.3 RENEWABLE AND DISTRIBUTED GENERATION PROGRAM COSTS AND IMPACTS –Information is currently unavailable and is forthcoming.

Form 3.4 DEMAND RESPONSE PROGRAM COSTS & IMPACTS – Information is currently unavailable and is forthcoming.

SILICON VALLEY POWER
CEC Docket 09-IEP-1C Demand Forecast

Form 4 REPORT ON DEMAND FORECAST METHODS AND MODELS – See attached report entitled – **2009-2020 Energy and Demand Forecast-January 2009**. This report explains the conceptual basis of the initial forecast used during our budget process, describes the electricity demand components and all necessary information and assumptions in the development of the forecast.

Form 5 REPORT ON DEMAND-SIDE PROGRAM METHODOLOGY – Information is currently unavailable and is forthcoming.

Form 6 UNCOMMITTED DEMAND-SIDE PROGRAM - Information is currently unavailable and is forthcoming.

Form 7 ESP DEMAND FORECAST – N/A

Form 8 – N/A