

Memorandum

To: Melissa Jones
Executive Director

Date: June 16, 2009

Telephone: (916) 653-6841

From: **California Energy Commission** — Sylvia Bender
1516 Ninth Street
Sacramento CA 95814-5512

Subject: **POSSIBLE ADOPTION OF 2010 PEAK DEMAND FORECAST FOR RESOURCE ADEQUACY. THIS ITEM TO BE CONSIDERED AT THE JUNE 24, 2009 BUSINESS MEETING**

The electricity demand forecasts adopted by the California Energy Commission (Energy Commission) are key inputs into the analysis necessary to determine resource adequacy requirements in the California Independent System Operator control area. The Energy Commission annually adopts a forecast of year-ahead peak demand, which serves as the reference case for determining the capacity requirements of the load-serving entities under the jurisdiction of the California Public Utilities Commission (CPUC).

In March 2009, the Energy Commission adopted a revised forecast of the 2010 peak demand for the California ISO to meet its schedule for their local area capacity requirements study. Staff based this revision on the *2007 IEPR* forecast, but adjusted the SCE area forecast down to reflect deteriorating economic conditions. Staff indicated the intent to revisit the 2010 peak demand forecast for the CPUC and California ISO's 2010 system resource adequacy requirements using the forthcoming draft *2009 IEPR* demand forecast.

Draft 2009 IEPR Forecast

At the "Staff Workshop on Energy Efficiency Measurement and Attribution and Preliminary Peak Forecast" (May 21, 2009), staff presented preliminary statewide energy and peak demand forecasts for the PG&E, SDG&E, and SCE areas. This new forecast uses a lower economic forecast and includes greater impacts from the utilities' 2009-2011 energy efficiency programs than the *2007 IEPR* forecast, resulting in a large decrease in demand in 2010. Staff proposed to use this preliminary draft peak forecast for the 2010 resource adequacy system requirements. At the workshop, staff presented comparisons of current loads and temperatures with the preliminary forecast, and comparisons of the staff and utility forecasts. While the utility and staff forecasts grow at slightly different rates from 2009 to 2010, the larger disagreement centered on the large decline in 2009 loads in the staff forecast relative to 2008 weather-normalized loads. Consequently, based on comments received during and after the workshop, along with staff's own analysis, staff prepared a revised 2010 peak forecast to serve as the basis for 2010 resource adequacy system requirements.

As parties noted at the May workshop, the preliminary draft 2010 peak demand forecast projected a decline in 2008-2009 loads that appeared larger than justified by the energy forecast. SCE's comments questioned whether differential trends in base load versus weather-sensitive load had been properly accounted for. To correct for this, the peak forecast for each planning area was calibrated to weather-normalized 2008 loads and the 2008-2010 forecasted growth in end-use energy. The SCE and PG&E distribution service area forecasts were derived by applying the planning area sector growth rates to the estimated 2008 weather-normalized coincident peak load

for each agency in the planning area. The service area includes loads of only CPUC-jurisdictional entities, whereas the PG&E and SCE planning areas also include loads of publicly-owned utilities and other non CPUC-jurisdictional entities.

Revised Draft 2009 IEPR Forecast

Table 1 shows the resulting service area forecasts, which include both bundled and direct access customers. While the forecast is still much lower than the 2007 IEPR forecast, the revised draft forecast does account for continued increases in weather-sensitive load which offset declines in base load. Staff is requesting adoption of the Revised Draft 2009 IEPR (June 2009) values in **Table 1** for use as the 2010 resource adequacy reference case.

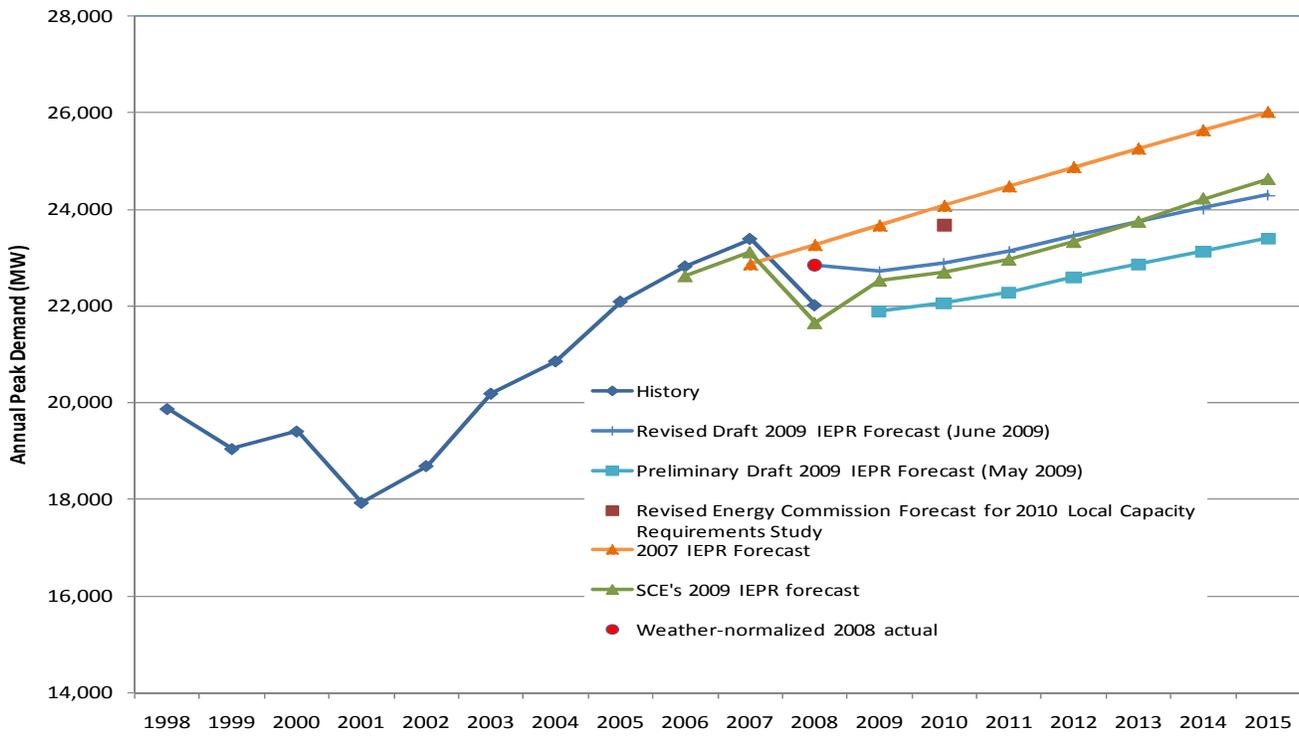
**Table 1: Annual Peak Demand Forecast for 2010
by Utility Distribution Service Area (MW)**

Forecast Vintage	PG&E	SCE	SDG&E
Revised Draft 2009 IEPR (June 2009)	19,761	21,118	4,621
Preliminary Draft 2009 IEPR (May 2009)	18,851	19,850	4,466
2007 IEPR (November 2007)	20,632	22,227	4,712
Revised Draft Percent Change from 2007 IEPR	-4.2%	-5.0%	-1.9%

Figure 1 compares the revised draft staff forecast (at the SCE planning area level) with the forecast submitted by SCE for the 2009 IEPR, as well as with previous Energy Commission forecasts. The low 2008 peak reflects cooler-than-average temperatures; weather-adjusted 2008 peak was 23,200 MW, so the forecast for 2009 indicates a forecasted decline of 0.6%. The revised draft 2009 IEPR energy forecast for SCE declines by 2.2% from 2008 to 2009. This decline is primarily because of the lower economic forecast, but incremental energy efficiency contributes about one third of the decline. This decline, however, is in base load, such the industrial sector and residential and commercial non-weather-sensitive end uses. The preliminary 2009 IEPR energy forecast projects an increase in residential weather-sensitive load. As shown in **Figure 2**, the resulting increase in air conditioning load offsets most of the decline in the other sectors. As a result, the peak forecast declines only slightly from 2008 to 2009. A slight increase in 2010 (0.7 percent) reflects population growth and minimal projected improvements in economic conditions, offset by energy efficiency program effects.

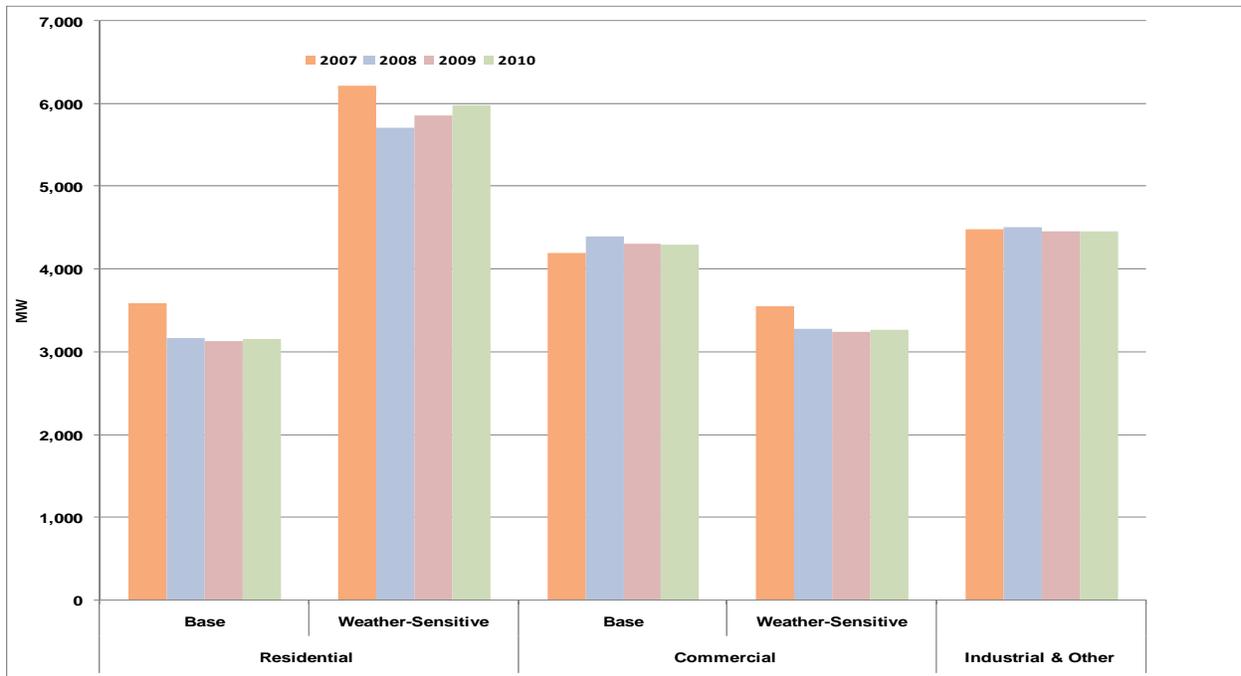
Figure 1 also shows the forecast prepared earlier this year for the California ISO's local area capacity requirements study. That forecast reduced the 2007 IEPR forecast by 700 MW. The revised draft 2009 IEPR forecast makes a further reduction of 776 MW.

Figure 1: SCE Planning Area Forecast Comparison



Source: California Energy Commission

Figure 2: SCE Planning Area End Use Peak Demand by Sector



Source: California Energy Commission

To assess the reasonableness of the 2009-2010 assumptions and results, staff examined daily peak demands and temperatures for each transmission access charge (TAC) area in the California ISO. While it is difficult to infer summer temperature-sensitive load from the limited high temperature days in the spring, the data suggest lower base load in the SCE area (**Figure 3**). At higher temperatures, however, daily peak demands in 2009 are comparable to 2007 and 2008, suggesting that declines in base load have been offset by increasing weather-sensitive load, consistent with the staff's revised draft 2009 IEPR peak forecast.

Figure 3: SCE TAC Area Spring Daily Peak Demand and Temperatures

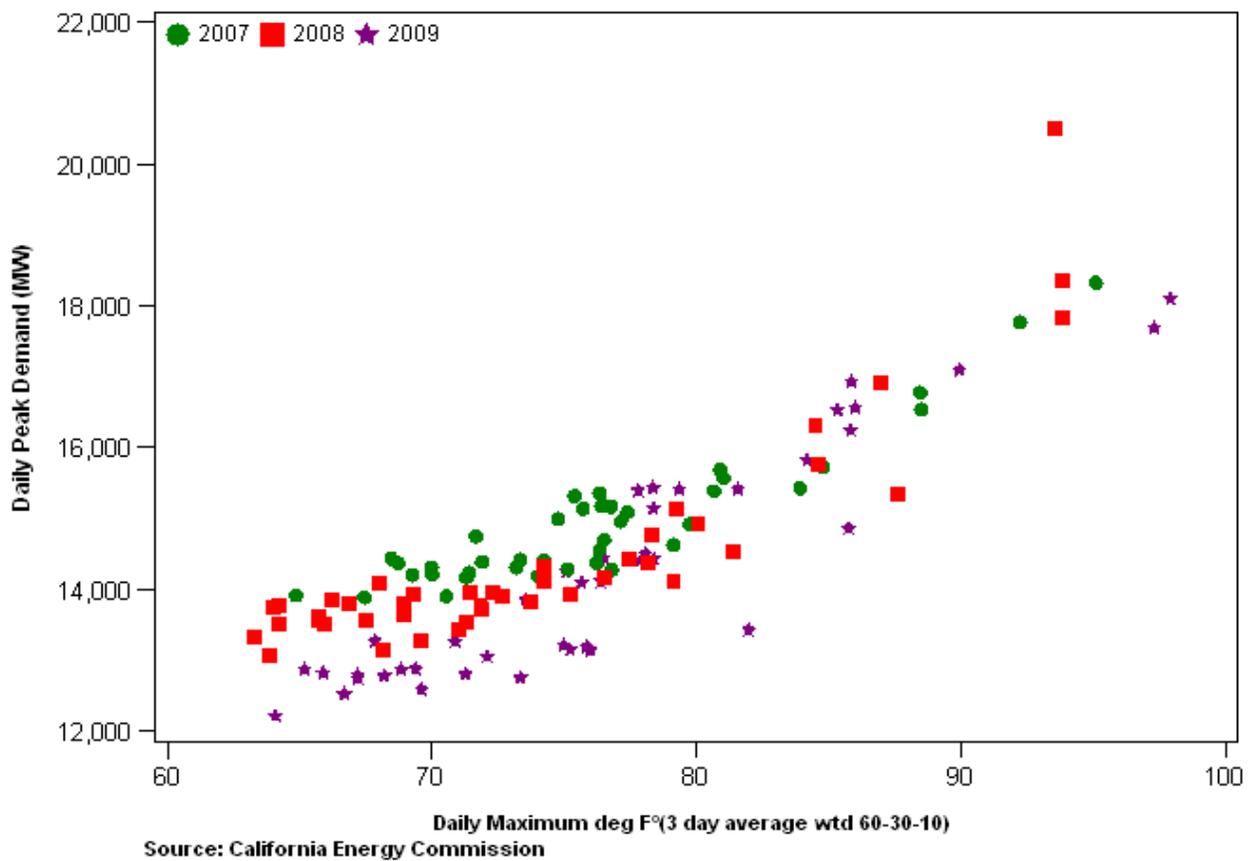
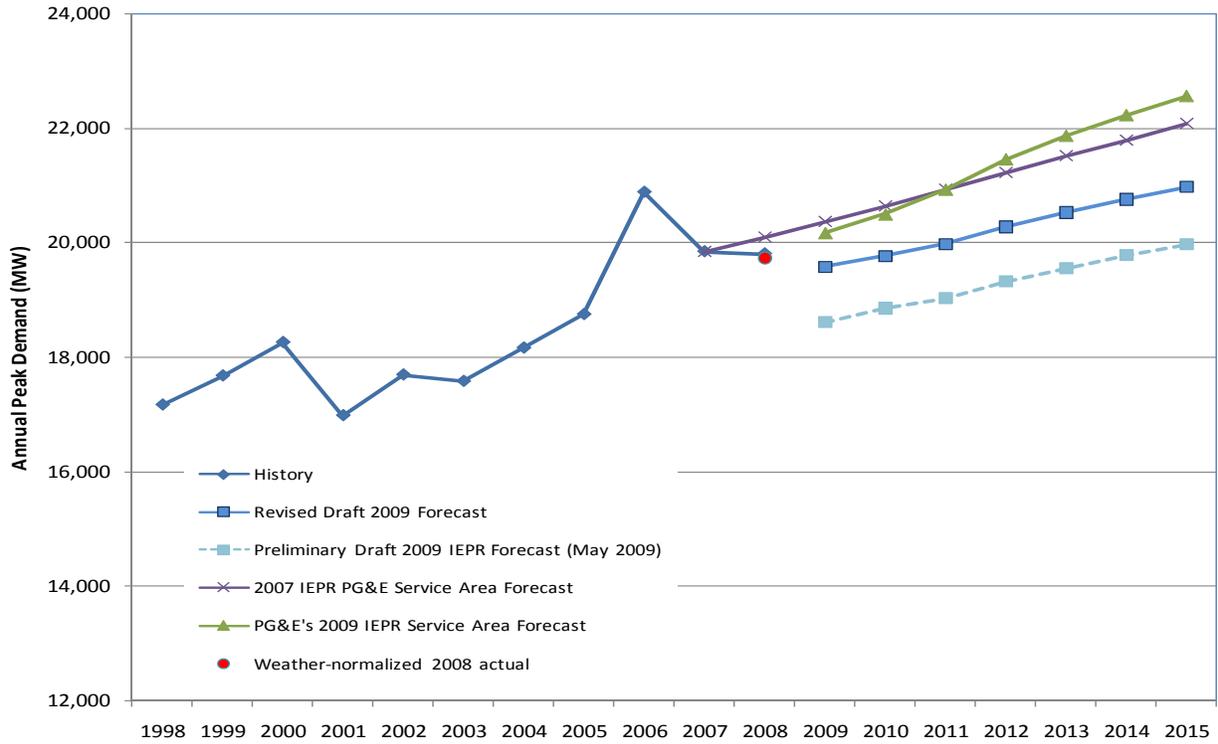


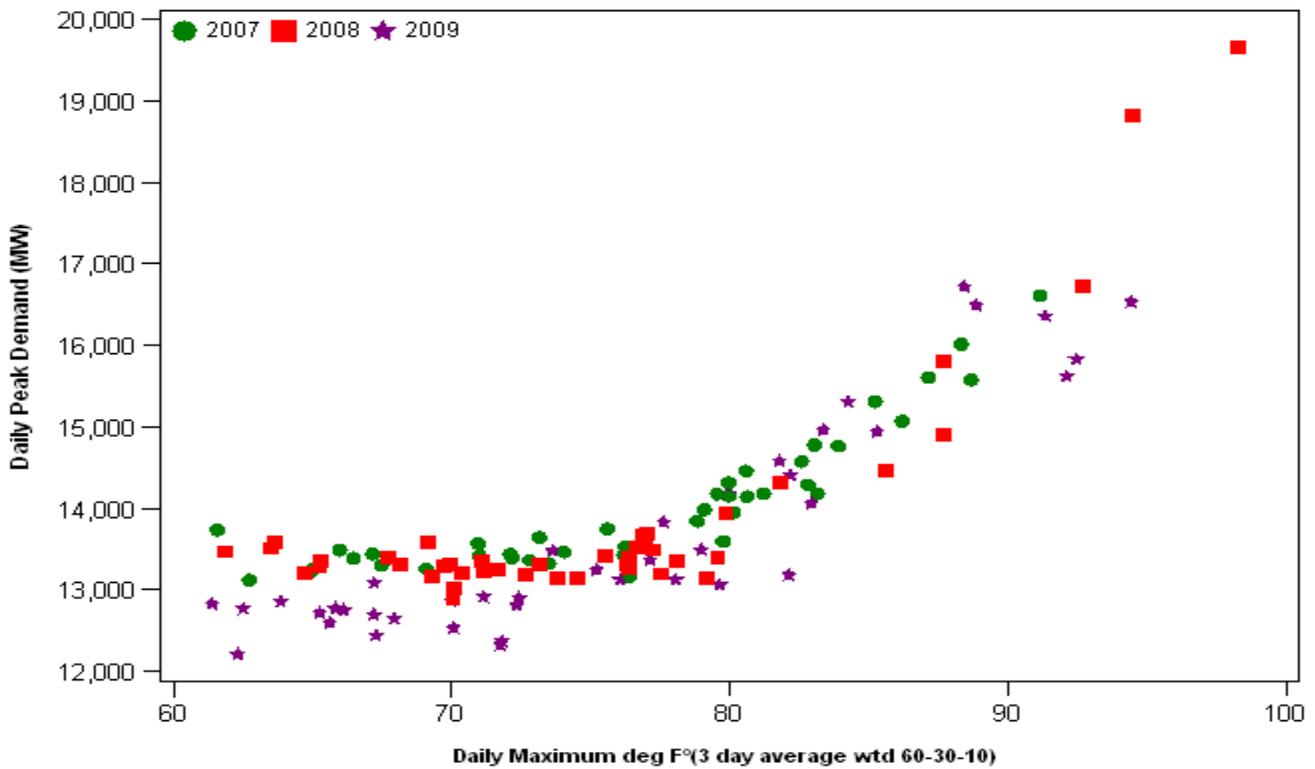
Figure 4 compares the peak forecasts for the PG&E service area. The revised draft 2009 IEPR forecast represents a 0.7% decline over weather-normalized 2008, with load growing less than 1% from 2009 to 2010, reflecting slight economic growth and continued effects from energy efficiency programs. As in SCE, current actual daily peak loads in the PG&E TAC area appear lower than 2008 when daily maximum temperatures are below 75 degrees, but at higher temperatures loads are closer to 2008 levels (**Figure 5**).

Figure 4: PG&E Service Area Forecast Comparison



Source: California Energy Commission

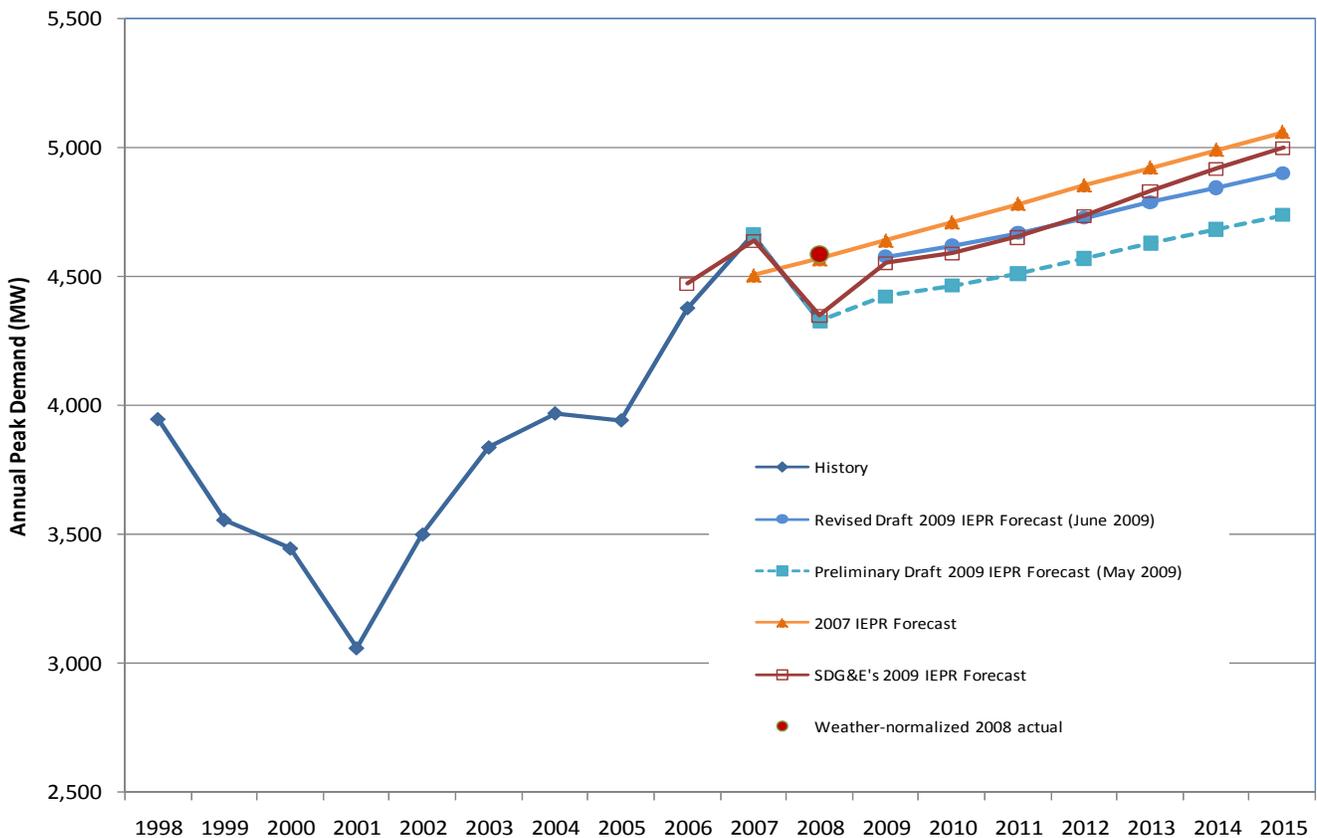
Figure 5: PG&E TAC Area Spring Daily Peak Demand and Temperatures



Source: California Energy Commission

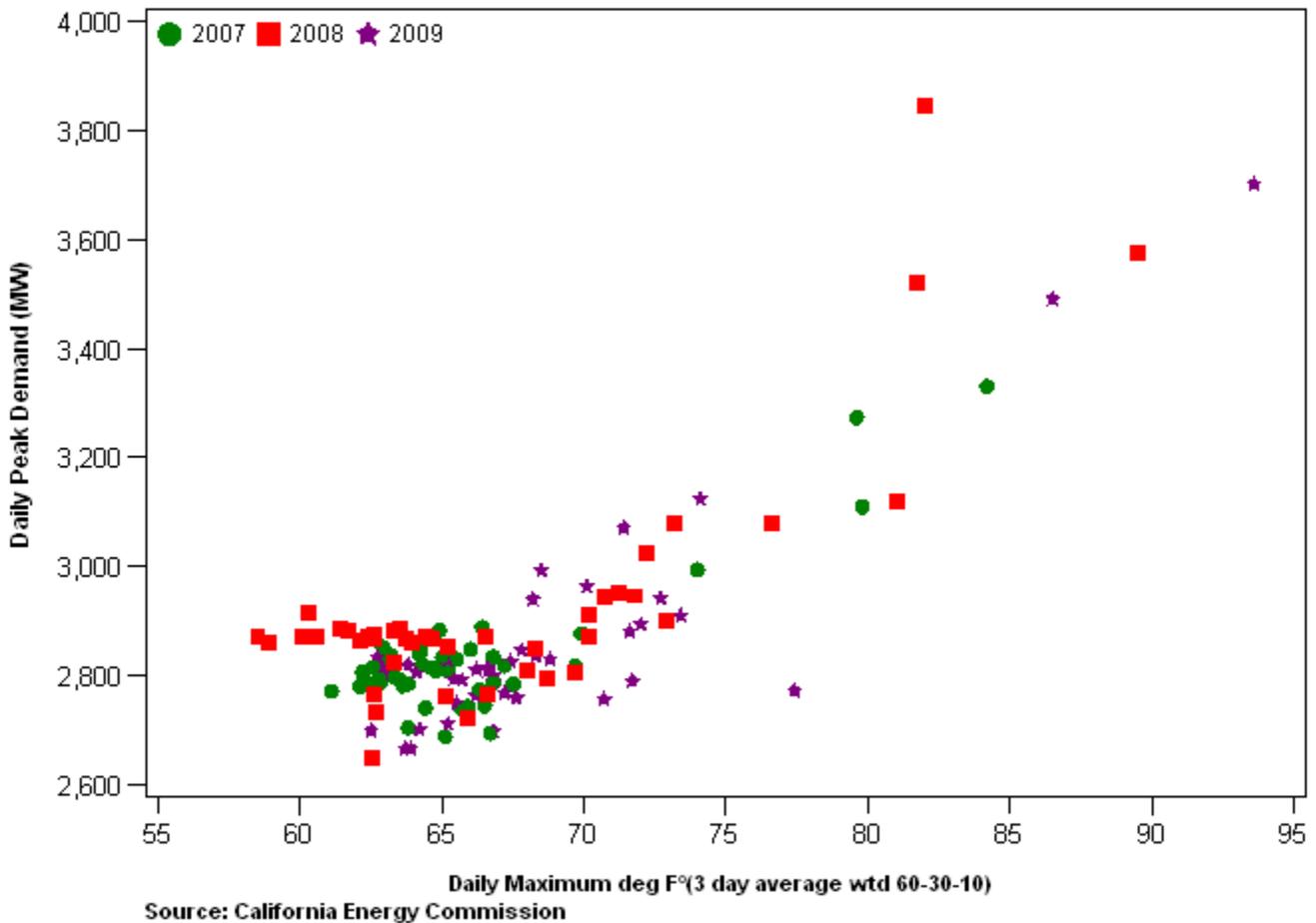
Figure 6 compares the SDG&E area peak forecasts. The revised draft 2009 IEPR forecast for 2009 represents a 0.4% decline over the weather-adjusted 2008 peak followed by slight growth in 2010 (0.9%). The effects of the economic downturn are less in SDG&E because of its lower proportion of load in the industrial sector, and a higher proportion of commercial load in more stable sectors such as education and defense. Spring loads in the SDG&E area indicate little or no decline in base load (**Figure 7**). SDG&E has experienced few high temperatures days in 2009 to date, but for those few demand is comparable to 2008 levels.

Figure 6: SDG&E Planning Area Forecast Comparison



Source: California Energy Commission

Figure 7: SDG&E TAC Area Spring Daily Peak Demand and Temperatures



Commission Action Requested: Adoption of the Revised Draft 2009 IEPR forecast (June 2009) PG&E, SCE, and SDG&E service area 2010 peak values, shown in **Table 1**, as the 2010 resource adequacy reference case.

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