Application of SAN DIEGO GAS & ELECTRIC COMPANY For Authority to Update Marginal Costs, Cost Allocation, And Electric Rate Design (U 902-E)	)

Application No. 07-01-__
Exhibit No.: (SDGE-12) _____

PREPARED DIRECT TESTIMONY
OF STEPHEN J. JACK
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

JANUARY 31, 2007

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PREPARED TESTIMONY

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STEPHEN J. JACK

CHAPTER 12

I. INTRODUCTION

The purpose of my testimony is to address issues related to San Diego Gas & Electric Company's (SDG&E's) proposed default Critical Peak Pricing (CPP) tariff design features, namely the CPP period, the CPP event trigger, and the number of CPP events.

II. CPP TARIFF DESIGN ELEMENTS

A. Summary

The primary objective of SDG&E's proposed default CPP tariff is to provide an economic incentive to bundled customers with demands of 20 kilowatt (kW) or greater to reduce summer usage in the top one percent of the high-load hours. To achieve optimal coverage of these top hours, SDG&E proposes a flexible CPP trigger designed to identify thirteen potential events (days) which may be or may not be called as actual events, depending on system conditions and other relevant information. SDG&E further proposes an event period of seven hours, from 11:00 a.m. to 6:00 p.m., during the months of May through September, including weekdays and Saturdays. In addition, SDG&E proposes to set a maximum of eighteen CPP events during the summer season and to set no minimum number of events.

B. CPP Period

SDG&E examined a range of peak periods[1] before selecting its proposed 11:00 a.m. to 6:00 p.m. CPP period. This period is proposed for several reasons.

First, a seven-hour period includes a higher percentage of the highest load hours compared to shorter periods. Table SJJ-1 below shows the percentage of the high-load hours in a normal weather year included in various weekday periods ranging from four hours to seven hours.

Table SJJ-1

Percentage of High-Load Hours

Included in Summer Weekday Periods*

	Weekday Period			
	4 Hours 2 pm - 6 pm	**5 Hours 1 pm - 6 pm**	**6 hours Noon - 6 pm**	**7 hours 11 am - 6 pm**
Top 100 Hours	53%	66%	77%	84%
Top 75 Hours	61%	77%	89%	96%
Top 50 Hours	70%	86%	96%	100%

*for a normal-weather year

Note that the seven-hour period is the only one of those examined that includes 100 percent of the top 50 hours. It also includes the highest proportion of the top 75 hours and the top 100 hours. By comparison, the four-hour, 2 p.m. to 6 p.m., period includes only 70 percent of the 50 highest load hours. A full 30 percent of the highest load hours would be automatically excluded from CPP demand reduction if the CPP period were limited to a four-hour window. Clearly, the proposed seven-hour CPP period has a much higher probability of targeting the highest load hours than do the shorter periods.

[1] Ordering paragraph 7 of Decision (D.) 05-04-053 states: "In future rate design applications the utilities shall explore narrowing the current peak period to cover the hours of 2:00 p.m. to 6:00 p.m."

Second, compared to a narrow window, a wider CPP period is less likely to shift the time of system peak to the shoulders of the window, which could reduce the net demand reduction of CPP and other demand response programs. A look at SDG&E's peak-day system load shape illustrates this point. On a typical peak day, the system peak occurs at 3 p.m., while the load at 2 p.m. averages 99 percent of the system peak. With a four-hour CPP period from 2 p.m. to 6 p.m., potential demand reduction would be limited to one percent, since any reduction beyond one percent would have little or no effect on the 2 p.m. load (which would now become the new peak after a reduction of one percent or more in the 3 p.m. load). This problem is exacerbated by any load that is shifted from the CPP period to the surrounding hours, such as pre-cooling load before the CPP period or catch-up cooling afterwards. In contrast, the shoulder hours for a seven-hour CPP period are typically about 90 percent of system peak at 11 a.m. and 92 percent at 6 p.m., with much less chance of the system peak shifting outside of the CPP period.

Third, the seven-hour period coincides with the existing non-residential summer on-peak time-of-use (TOU) period.

C. CPP Trigger

SDG&E proposes to initiate a CPP event when conditions indicate the greatest need for demand response. An event can be triggered for any of the following reasons:

- SDG&E system and weather conditions,
- California Independent System Operator (CAISO) Electrical Emergency Alerts, or
- SDG&E system emergencies related to grid operations.

Each trigger is described below:

SDG&E System and Weather Conditions. SDG&E proposes to use a "soft" event trigger, under which SDG&E will have more flexibility in activating CPP events only when load reduction is most likely to be needed. The soft trigger involves identifying potential high-load days using an established set of temperature and load conditions and then determining whether an event should be called based additional relevant information. By softening the trigger provisions to indicate that an event may be called under the temperature and/or system load conditions, but also preserving the opportunity to not trigger an event solely based on those values, SDG&E believes that the CPP program can be used more effectively to target event days and reduce the overall number of events. The use of a temperature forecast is intended to provide a certain degree of transparency to customers. The proposed trigger includes a temperature forecast from an independent source that is readily accessible via a website. This feature affords customers a way to anticipate whether an event might be called.

Under the proposed trigger, CPP events would be potentially called and customers notified by 3:00 p.m. as follows --

On a normal weekday when the next day is also a normal weekday, a CPP event would be triggered when both of the following conditions exist:

(1) the maximum temperature forecast at Marine Corps Air Station Miramar for the next day is equal to or greater than 84 degrees Fahrenheit (°F), and

(2) SDG&E's actual system load has reached or exceeded 84 percent of SDG&E's normal-weather summer peak load forecast.

This trigger would signal a possible CPP event only for Tuesdays through Fridays. The corresponding conditions on a Friday that could trigger an event on

Saturday are a maximum temperature forecast of 86°F and actual system load of 84 percent of the forecasted summer peak load.

Once the trigger threshold has been reached, SDG&E may decide not to call an event based on additional factors, such as electric resource availability or energy prices. Such a flexible approach will allow a more informed selection of event days than a hard and fast rule with no room for deviation.

Another possible scenario involves triggering a potential CPP event on a Monday or the day after a holiday. This situation is complicated by the need to either call an event more than one day ahead (three days ahead for a Monday or four days ahead for a post-holiday Tuesday) or to call an event on a day-ahead basis when the customers may not be able to respond effectively for various reasons.[2] Based on customer input, SDG&E proposes to "pre-notify" customers of a likely CPP event by 3:00 p.m. on Friday and then follow-up with a firm notification of an event for the next day by 3:00 p.m. on Sunday (or the in the case of holidays, by 3:00 p.m. on the holiday).

In this scenario, a pre-notification would be issued based on SDG&E's best information on Friday, and a confirmation would be issued when (1) the forecast temperature at MCAS Miramar for the next day is equal to or greater than 84°F and (2) SDG&E's actual system load has reached or exceeded 76 percent of SDG&E's normal-weather summer peak load forecast. Otherwise, no event would be called. Also, if a pre-notification is not issued, then an event would not be called.

CAISO Electrical Emergency Alerts. Upon notification from the CAISO by 3 p.m. that an Electrical Emergency Alert has been declared, SDG&E will initiate a CPP

[2] For example, customers may not be open for business to receive the event notice, or customers who do receive the notice may be unable to effectively alter their operations for the next day.

event for the following day. Customers will be notified of the Alert and advised that CPP rates will be in effect for the following day. Should the CAISO cancel the Alert, customers will be notified that the CPP event day will be cancelled.

SDG&E system emergencies related to grid operations. CPP events may also be triggered when SDG&E experiences a system emergency related to grid operations. To the extent that SDG&E is aware by 3 p.m. the preceding day of grid reliability conditions requiring load reduction, SDG&E will notify customers that the following day will be a CPP-event day.

D. Number of CPP Events

SDG&E's proposed CPP trigger is designed for thirteen events in a normal weather year. As discussed in the testimony of witness James Magill (Chapter 10), the CPP rates are designed for nine events reflecting the anticipated reduction in the number of events from the use of a soft trigger.

SDG&E proposes to set the maximum number of CPP events at eighteen in any given summer season and to set no minimum number of events. Simulations of the temperature/load trigger applied to the last twenty years indicate that the number of events over that period would have ranged from a low of two per year to a high of 33 per year.

This concludes my prepared testimony.

III. QUALIFICATIONS OF STEPHEN J. JACK

My name is Stephen J. Jack. My business address is 8306 Century Park Court, San Diego, California 92123. I am employed by San Diego Gas & Electric Company (SDG&E) as the Electric Demand Forecasting Manager in the Electric Demand Forecasting and Analysis Department. My primary responsibilities include the financial and economic analysis of regulatory and legislative proposals and development of electricity demand forecasts for SDG&E.

I received a Bachelor of Science degree in Mechanical Engineering from Carnegie Mellon University in 1969. I received a Master of Business Administration degree from the University of Pittsburgh in 1972 with a specialization in management science. From 1969 to 1977, I was employed by Westinghouse Electric Corporation as an economic/business consultant in the Power Systems division. I joined SDG&E in 1977 and have held various position of increasing responsibility since that time.

I have previously testified before the California Public Utilities Commission.