SESSION 3A

EVALUATING THE EFFECTS OF RETAIL PRICING ON PEAK DEMAND AND ENERGY

Moderator: Steven Braithwait, CA Energy Consulting

PAPERS:

Estimating Default Dynamic Pricing Price Responsiveness for Medium C&I Customers

Josh L. Bode, MPP, Freeman, Sullivan & Co., San Francisco, CA
Stephen S. George, PhD, Freeman, Sullivan & Co, San Francisco, CA
Samuel D. Holmberg, Freeman, Sullivan & Co., San Francisco, CA

The Impact of Bill Protection on Demand Response and Program Retention Under a Residential CPP Rate

Stephen S. George, PhD, Freeman, Sullivan & Co, San Francisco, CA
Josh L. Bode, MPP, Freeman, Sullivan & Co., San Francisco, CA
Elizabeth Hartmann, Freeman, Sullivan & Co., San Francisco, CA

The Residential Energy Savings Effect of a 2-Step Inclining Block Electricity Rate

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SESSION SUMMARY:

The first two papers in this session describe various features from recent load impact evaluations of critical-peak pricing (CPP) at the three major investor owned utilities in California. The first paper reports estimated load impacts for medium-sized commercial and industrial customers who have been defaulted onto CPP over the past two years. From 2008 to 2010, the three investor-owned California utilities defaulted approximately 15,000 large and medium-size commercial and industrial (C&I) customers with approximately 4,400 MW of peak load onto default CPP. The customers ranged in size and included a wide range of industries, climate regions and tariffs. Over 2,800 of those accounts had average hourly consumption of 100 kWh or less, and are the focus of this paper.

The analysis found modest degrees of event-period percentage load reductions, ranging from just over 1 percent at Southern California Edison to 10 percent at Pacific Gas and Electric. Estimated load impacts for industrial customers were substantially larger than those for commercial customers. An earlier transition to default CPP at San Diego Gas and Electric allowed additional analysis of the effect of bill protection and the persistence of load impacts over time. The presence of bill protection was found to not affect customers' load impacts, and those impacts were found to persist into the second and third years of participation.

The second paper describes the case of a voluntary residential CPP rate at PG&E in which customers' bills are temporarily guaranteed to not rise relative to what they would have been under their standard tariff. The study evaluates the effect of bill protection on customers' propensity to remain on the CPP rate and to respond during CPP events. PG&E's SmartRate has been in place for three years had enrollment in 2010 of roughly 25,000 customers. In order to encourage program enrollment, PG&E offers customers first year bill protection. About a quarter of the customers currently enrolled in the program have had bill protection expire, which affords the opportunity to assess the impact of bill protection on demand response and customer retention.

Two primary findings are reported in the paper. First, in contrast to the previous paper relating to C&I customers, this paper reports that bill protection reduces average demand response by about

25%. However, potentially offsetting that reduction, the paper also reports that bill protection reduces program attrition during the initial period on CPP.

The third paper describes an evaluation of the effect of implementing an inclining block rate on residential customers' energy consumption. The purpose of the rate was to encourage conservation by reflecting the legacy cost of energy in the first step and the marginal cost of new energy in the second. The objective of the analysis described in the paper was to measure the amount of conservation caused by the inclining block rate. The method used was to estimate relevant price elasticities for usage in the two blocks, using an econometric analysis, and then apply the estimated elasticities to corresponding changes in prices to estimate changes in consumption due to the new block rate.