CEC Load Management Standards Workshop on Rate Design

Pacific Gas and Electric Company Dynamic Pricing Timetable and Rate Design Guidance

Andy Campbell
Senior Energy Advisor to
Commissioner Rachelle Chong
California Public Utilities Commission

DOCKET
08-DR-1

DATE _____

RECD. JUL 25 2008

CPUC Dynamic Pricing Policy

"[M]ake dynamic pricing tariffs available for all customers." (EAP II)

Benefits of dynamic pricing:

- **Lowers costs**
- **Improves system reliability**
- **Reduces greenhouse gas emissions**
- **Helps modernize grid operations**

Implementing Dynamic Pricing—PG&E

A proceeding was initiated to answer the following:

1. **What types of dynamic pricing rates should PG&E offer its customers?**

2. **When should PG&E offer each type of dynamic pricing rate to each customer class?**

3. **How should the dynamic pricing tariffs be designed and integrated into PG&E's overall rate design?**

Outcomes:

- **Dynamic pricing timetable**

- **Rate design guidance**

What Dynamic Pricing Rates Should PG&E Offer?

- Critical Peak Pricing (CPP)
  - CPP is an administratively set, market proxy
  - Focused on summer afternoons
- Real Time Pricing (RTP)
  - Tied to day-ahead hourly prices
  - Rate design process could be complex and will depend on the market design
- Other Rates:
  - Time-of-use (TOU): not dynamic, but is better aligned with costs than a non-time-variant rate
  - Peak Time Rebate (PTR): an incentive based program for residential customers developed to be compliant with AB 1X

Commercial & Industrial (C&I) Default Rates

Customer Class	2008	2009	2010	2011	2012
Large C&I (>= 200 kW)	**TOU**	**TOU**	**TOU/ CPP**	**TOU/ CPP (RTP)**	**TOU/ CPP (RTP)**
Medium C&I (>= 20 kW, <200 kW)	**Flat**	**Flat**	**TOU/ CPP**	**TOU/ CPP (RTP)**	**TOU/ CPP (RTP)**
Small Commercial (< 20 kW)	**Flat**	**Flat**	**Flat**	**TOU/ CPP (RTP)**	**TOU/ CPP (RTP)**

Default rate shown. RTP is an optional rate. TOU is also available as an optional rate.

TOU = Time-of-use; CPP = Critical Peak Pricing; TOU/CPP = Critical peak pricing with time-of-use during non-CPP periods; RTP = Real Time Pricing

Residential Rates

Customer Class	2008	2009	2010	2011	2012
Residential	Tiered Flat (TOU, CPP)	Tiered Flat (TOU, CPP)	Tiered Flat/PTR (TOU, CPP)	Tiered Flat/PTR (TOU, CPP, RTP)	Tiered Flat/PTR (TOU, CPP, RTP)

- Proceeding is not addressing legal interpretations of AB 1X.
- The timetable assumes that dynamic pricing must be optional while AB 1X rate protections remain in place.
- Timetable requires PG&E to file a proposal for default TOU/CPP 30 days after AB 1X rate protections end effective within 1 year.

TOU = Time-of-use; CPP = Critical Peak Pricing; RTP = Real Time Pricing; PTR = Peak Time Rebate

Rate Design Principles (1)

- **Rates design should promote economically efficient decision-making.**

- **To promote economically efficient decision-making rates should be based on marginal cost.**

- **Rates should also seek to provide stability, simplicity and customer choice.**

Rate Design Principles (2)

- **If a customer reduce its usage and thereby reduces a utility's costs, the customer should see a commensurate reduction in its bill.**

- **Dynamic pricing rates allow a customer to choose how much of their load is subject to dynamic pricing.**

- **The utilities should bid expected demand reductions due to dynamic pricing into the CAISO's day-ahead market.**

Rate Design Principles—CPP

- **The critical peak price should represent the marginal cost of capacity plus the marginal cost of energy during the critical peak period.**

- **CPP rates should not also have generation demand charges.**

- **The utilities should be able to call a variable number of events each year based on actual system conditions..**

- **The utilities should be able to call critical peak events any day of the week, year round.**

Rate Design Principles—RTP

- **The energy charge should be indexed to the CAISO's day-ahead hourly market prices.**

- **Initially, day-ahead hourly market prices should be aggregated across PG&E's service territory.**

  - **As the market develops locational prices should be considered.**