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CALIFORNIA INITIATIVE MAY MANDATE ADVANCED METERING AND MARKET-BASED RATES

By Roger Levy, President, Levy Associates

"California mandates advanced metering for 11 million customers." Read the journals six months from now and this may be one of the headlines coming out of California.

Almost two years ago the California Energy Commission (CEC), Public Utilities Commission (CPUC) and Power Authority (CPA) joined together in a unified effort (Rulemaking 02-06-001) to resolve the 2000-2001 energy problems that plunged the state into 12 months of forced outages, one utility bankruptcy, $20 billion of long-term debt, outrageous price increases and a new governor. While cooperation among three regulatory agencies anywhere is by itself remarkable, consider the fact that these agencies also unanimously agreed on a far-reaching two-part vision (below) to establish a more secure, efficient and customer-oriented energy future.

California Energy Vision

Part 1	Advanced interval capable meters with communication links will be installed on all customers.
Part 2	Critical peak pricing will become the default tariff for all customers. Customers will have the option to 'opt-out' to real-time pricing or risk-adjusted time-of-use, tiered, or other rate forms.

The California vision is particularly unique because it focuses on customer-oriented or demand-side solutions. The vision seeks to establish a technology and pricing policy foundation that links customer rates with the market price for energy. More specifically, it seeks to provide customers with information and real capability to better manage their energy bills. It will also provide the state with the capability to better manage system reliability and resource planning.

The regulatory proceeding underlying this vision is proceeding on two separate paths that correspond with the two-part vision statement. Preliminary results from a $10 million statistically designed statewide pricing pilot implemented last spring by Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric are already demonstrating customer demand and energy impacts that substantially exceed most observer expectations.

Last November, the CPUC began a proceeding to formally establish the business case for advanced metering. The scope for this proceeding was established after extensive review of technology, public policy and other utility business case practices. As a result, the first objective of this proceeding is to establish a new business case template that addresses the many conceptual weakness in historical practice. Three examples that illustrate this expanded perspective include:

1. **Value Maximization** – The conventional utility business case emphasizes cost minimization rather than value maximization. For example, conventional business case economic analysis implicitly establishes existing meter system cost and functionality as the de facto standard against which all other alternatives are judged. In the simplest comparison, if the new system costs more than the existing system it will be rejected as not cost effective. Under this approach, new investment is judged not by the value or additional capabilities and customer services it provides, but by how the 'new system' costs compare to the 'existing system' costs. It is uncommon for a conventional business case process to assign

any economic or other value to new, unserved functional capabilities. Consequently, advanced metering options that provide additional, more valuable functionality although at a higher initial cost, immediately become less attractive or unfavorable investments. There is no attempt to value the increase in functionality relative to the level of service provided in the existing metering system.

2. **Opportunity Costs** – Advanced metering provides more accurate and more timely planning information and the flexibility to establish rates responsive to market conditions. Not having this capability imposes an opportunity cost on the entire utility system. Examples include unnecessary outage costs, inequitable outage management practices, and ineffective rates and demand response programs. Could the market abuses of power that contributed to the California outages been mitigated by better pricing or information? How much of an impact or reduction in the $20 billion-plus outage cost would it have taken to cost justify the investment in advanced metering? While opportunity costs are often difficult to determine, they are still very real and need to be included in the business case.

3. **Customer Services** – Advanced metering provides a capability to support the development of better, more responsive customer billing, energy information and bill management services. Inconvenience and excessive energy bills impose a real cost on customers. Neither is usually accounted for in a conventional business case assessment. Does is matter that surveys often report that 80-90 percent of customers don't understand their rate or how they use energy? How can customers be expected to make rational investment and operating decisions without this information?

Conventional business case evaluations include other limitations that tend to misrepresent both the costs and potential benefits from more advanced systems. For example, outsourcing or other less expensive alternatives to utility ownership are generally not considered or evaluated. In addition, existing system costs almost always exclude allocations for other ongoing utility hardware and information system investments necessary to provide call center, outage management, billing and customer services that would otherwise be provided through implementation of an integrated advanced metering system. In other words, the conventional utility business case focuses on the costs and benefits from only one individual component of a much larger suite of connected systems.

This proceeding will address all of these issues. Ultimately, this proceeding will implicitly examine whether California utilities can meet their obligation to serve without the capability to provide customers with better pricing and energy information.

The California and Northeast blackouts clearly established the value of better resource management and more timely usage information. While increased investment in generation and transmission/distribution may be necessary, advanced metering and better pricing is a crucial first step.

The impacts of establishing this new business case are significant and widespread. As a component of utility infrastructure, advanced metering becomes a cost of service. Pricing and other demand response programs then become inexpensive extensions of existing system capability. Widespread customer demand response will clearly redefine both the timing and need for all other system generation and transmission/distribution resources.

About the Author

Roger Levy, is the President of Levy Associates, a Sacramento, California management consulting firm that specializes in market and technology planning, competitive assessments, information systems, and evaluation. Mr. Levy received a BS degree in Management Science from the William E. Simon Graduate School of Business Admistration, University of Rochester and a MBA in Quantitative Methods from the Graduate School of Business, University of Southern California. Since starting Levy Associates in 1980, Mr. Levy has completed over 100 technical projects and policy papers for investor-owned, municipal, and REA electric utilities; regulatory commissions; utility associations and research institutes, and; a variety of technology companies.

Prior to starting his own business Mr. Levy held positions with the California Energy Commission, Price Waterhouse, Arthur Young & Company, RCA, and Xerox Corporation.