



Rate Design for Energy Conservation and Proper Price Signals

In general, economic efficiency is improved when prices properly reflect costs. In competitive markets the rivalry between different suppliers forces prices down to incremental costs. Prices based on incremental costs send proper signals to all market participants. A supplying company receives signals as to what resources should be acquired, and customers receive signals encouraging consumption patterns that coordinate with the supply situation.

Electric utilities should, to the extent possible, use proper price signals to reflect costs in the design of rates. This would greatly encourage customer-initiated conservation actions and investment.

1. The cost for new generation should be properly placed on peak use.

Most utilities long-term generation plans call for additions of various gas-fired peaking and intermediate combustion turbines and combined cycle generating units. Yet many utilities cost of service studies treat production cost as if all generation is base load equipment and its costs are allocated on 12-month coincident peak (CP) method. In contrast the typical utility allocates its transmission costs on a 4-month CP method to recognize the predominately summertime utilization of the transmission system. The same should be done for generating capital cost recovery.

2. Fixed and variable cost components should be properly reflected in the design of rates.

Currently, many cost-of-service studies find the total revenue recovery needed for each rate. This total consists of fixed, variable and customer costs. Yet, the fixed and variable components of the rates do not necessarily correlate to the specific demand and energy costs. Too often rates are merely adjusted in each rate case to provide the level of revenue sought without following the cost causation principle.

3. Rates should be moved toward parity.

It is common for utility cost-of-service studies to find some rates are subsidizing other rates. This cross-class subsidy is a result of putting politics ahead of rational cost allocation. The revenue requirement for each rate should be moved toward levels that provide the average rate of return.

4. Fuel costs should be a part of base rates.

Fuel costs vary considerably. The impact of this cost and its price signals to customers at times are not felt for as long as two years. This makes a customer response impractical. Fuel costs should no longer be recovered separately from base rates. Power companies are also in a better position than customers to control this cost. Fuel costs are included in cost of wholesale power costs.

5. Fuel costs should be tiered for voltage.

Until fuel costs are recovered through retail rates, the separate fuel recovery riders should reflect the lower losses incurred by the utility to serve high voltage customers. The utility incurs higher losses on its side of the meter when serving customers at utilization voltage. High voltage customers bear the losses on their side of the meter. Charging all customers the same fuel cost is a subsidy from high voltage customers to low voltage customers.

6. Residential summer and winter rates should properly reflect costs.

The typical utility residential rate has summer and winter energy charges. These have been adjusted over the years, and it would be a curious coincidence if they properly reflect the true different cost for summer and winter production.

6. Anachronistic rates should have a realistic on-peak time.

The more modern rates have a summer on-peak period in which the billing demand is established between 12 noon to 8 pm – which is when most systems actually reach their peaks. Some older rates have no distinction between on-peak and off-peak. Rate designs set back before the widespread use of air conditioning have peak periods starting as early as 8 am. The longer the on-peak period the less customers can reduce demand.

7. The use of time sensitive rates should be expanded to more customers.

The wholesale power market now uses time sensitive pricing; passing this method of pricing down to the retail level will encourage customer response and properly recover cost. Regulated utilities should remove barriers and encourage increased customer participation in such rates. With the increased use of smart meters it is reasonable to make Time-of-Use and Real-Time Pricing style rates available to more customers.

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