

HIGHLIGHTS OF DEMAND-RESPONSE INNOVATIONS

Investor-Owned Utilities in Washington State

Washington Utilities and Transportation Commission

Beginning in December 2000, the WUTC adopted, on an emergency basis, nine new demand-response initiatives, including time-of-day rates with Internet feedback, credits for using less energy than the previous year, industrial buy-back (curtailment) programs using the Internet, and irrigator curtailment contracts. These were mostly temporary initiative aimed at addressing supply deficiencies that were predicted to result from poor hydro conditions. Some highlights (based on company-supplied data not yet verified by the WUTC):

Conservation Incentive Programs (credit for saving energy compared to same month previous year)

- *Avista* 5¢ credit for each kWh reduced beyond 5%: **49% of customers received credit.**
- *PSE* 5¢ credit for each kWh reduced beyond 10%: 27% of residential customers received credit
- *PacifiCorp* 10% credit for reducing use by 10%, 20% credit for reducing use by 20%: **24% of customers reduced the 10% credit, and 16% received the 20% credit.**
- These results were achieved with a carrot only (a credit); there was no stick (no rate increase).

Time-of-Use Rates

- 283,000 residential customers were put on time-of-use rates, with higher rates for the breakfast and dinner hours, and discounts after 9pm (plus Sundays/Holidays).
- The average “time-of-use” residential customer reduced monthly peak use by 14 kwh.
- Only **0.7%** of the 283,000 residential customers opted out of time-of-use rates.
- These results were achieved with no over-all rate increase, only revenue-neutral premiums (13%) and discount (9%) for peak and off-peak hours.
- Note: Cost-effectiveness has not been demonstrated – a rate case is pending.

Tentative Conclusions, based on our preliminary information:

- 1) Small consumers respond to price signals.
- 2) Carrots can be effective without sticks.
- 3) Mass-consumer demand-response initiatives can achieve substantial reductions in consumption- (residential and commercial initiatives saved about 50 times as much electricity as those for industrial and irrigator customers). However, the value of these consumption reductions depends on how well they align with the periods of high market prices for electricity.
- 4) Effective demand-response programs can occur within a regulated system.
- 5) Resistance to new initiatives is greater before the fact than after.