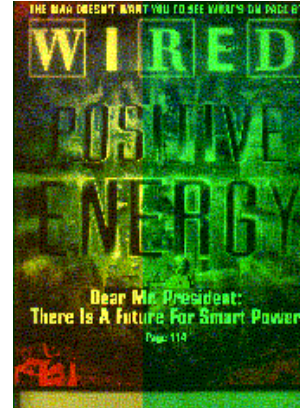


# Demand Response in Electricity Markets

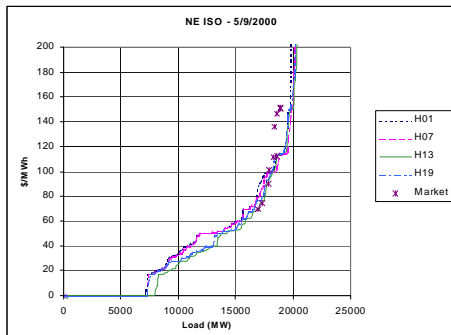
NASUCA Mid-Year Meeting  
 Santa Fe, New Mexico  
 June 18, 2001  
 Bruce Biewald



22 Pearl Street  
 Cambridge, MA 02139  
 617.661.3248  
 bbiewald@synapse-energy.com  
 www.synapse-energy.com



## Load response reduces market price



## Overbuilding is an expensive solution to market power problems

In New England, with a 24,000 peak demand, adding 10 percent to capacity reserve requirements costs about \$1 billion.

$$24,000 \text{ MW} \times 10\% \times \$400/\text{kW} \times 1000 \text{ kW/MW}$$

## Fundamental Dilemma for Consumers

How to promote development of the demand side of markets... while protecting consumers from the volatility of market prices?

Programs that pay for demand response, while continuing to provide stable and reliable service to small customers at just and reasonable prices.

## Why Demand Response?

Old Idea + Evolving Technology + New Urgency

“Spot Pricing of Electricity,” Fred Schwebpe, et al 1988

Load control from the 1970s enhanced with developments of microprocessors and electronic communications

Bid based wholesale markets with price volatility and system reliability problems



## Top Ten NE Demand Response Issues

1. Get involved in program review
2. Simplify the load response program
3. Develop a load bidding alternative
4. Provide appropriate financial incentives
5. Expand participation alternatives



## Top Ten NE Demand Response Issues

6. Mitigate environmental impact
7. Provide open access for suppliers of load response communication and control
8. Enable a variety of incentives for end use consumers
9. Explore metering issues
10. Ensure on-going review to continue program improvement