

## Demand Response Programs in California

### I. What is the policy objective?

**It is very Important to be clear about the purpose of your Demand response program. Two dimensions- time to response and policy objective.**

#### ***A. What is the desired time interval between signal and lower consumption?***

- Minutes to hours- Most cycling programs and interruptibles
- Hours to days- Price responsive programs such as demand bidding, critical peak pricing, day ahead bids
- Weeks to months- Media campaigns , simple retrofit programs
- Months to Years- New building and appliance standards, some market transformation programs, Standard performance contracting., industrial audits

#### ***B. What is the primary purpose of the Dr program/ new rate?***

1. To serve as emergency reserves during transmission or generation outages? ( Reliability based programs)
2. To serve as a braking mechanism to restrain wholesale prices in hour ahead or day ahead markets? ( Price responsive programs)

*Almost all load management programs have been designed to preserve system reliability.*

### II. Types of Programs in California and recent experience with them

#### A. Reliability based programs

1. Interruptible Curtailable rates (1066 MW)- large C&I customers get discounted rates in return for a pledge to reduce load to a fixed firm service level when stage 2 or stage 3 emergency levels are called( reserve margins less than 5%).
  - a. See Chart of available MW over time in Attachment A
  - b. This program only delivered 50% of expected load reductions when called repeatedly from June 2000 to March 2001.
  - c. Penalties considered too severe (\$7/kwh) for not performing- UDC's used "false advertising" in recruiting customer.
2. Air conditioner cycling- (350 MW) Two active programs SCE/SMUD, others were dismantled in early 1990's by PG&E, SCE due to surpluses.
3. Optional Binding Mandatory Curtailment programs-(67MW) customers exempted from rolling blackouts if they agree to reduce load on entire

distribution circuit by anywhere from 5% to 15% depending on severity of emergency. Trend is downward.

4. CEC voluntary program- Customer gets incentives to install interval metering and communications equipment in return for a pledge to consider using curtailment strategies during stage 2 or 3 programs. Customers required to participate and demonstrate /measure a minimum load reduction in a pilot test. (250 MW max 125 MW dependable)

B. Price Responsive Programs

1. DWR Demand Bidding Programs-(50 MW) Program requires customers to bid their load curtailment amount at a fixed price between 10 cent/kwh and 70 cents/kwh. DWR must then accept or reject each customer bid. Program has yielded 0MW since DWR has never accepted a bid. Still operational based on potential need this summer.
2. SMUD bidding programs- 20 MW
3. CEC/SMUD experiments with critical peak pricing in residential sectors.

III. Where are we headed?

1. Reliability based programs enrollments are declining as sense of crisis eases.
2. Price responsive programs are hotly contested in CA. Debate about whether wholesale market is functional, and if so, will demand response programs lead to lower wholesale prices.
3. Pressure to move towards dynamic or time dependent pricing is rising.

# Available Capacity from Demand Response programs over time in CA

