Demand Response Program Overview / Processes
Demand Response Goals

- Minimize Frequency and Duration of Firm Load Curtailments
- Attract New Demand Response
- Manage Expected Resource Shortages
- Maintain Non-Firm Tariff Resources
- Develop Environmentally Sound Solutions
ISO Demand Response Programs

- Participating Load Program (Ancillary Services/Supplemental); (PLP)
- Demand Relief Program (DRP)
- Discretionary Load Curtailment Program (DLCP)
- Voluntary Load Curtailment Program
Normal Operation
Operating Reserves above 7%

- Ancillary Service Load Program
- Discretionary Load Curtailment Program

Stage 1 Emergency
Operating Reserves forecasted to be below 7%

- Public Alert
- Voluntary Load Curtailment Program
- Discretionary Load Curtailment Program

Stage 2 Emergency
Operating Reserves forecasted to be below 5%

- Curtail UDC Interruptible Loads
- Curtail Demand Relief Program Loads

Stage 3 Emergency
Operating Reserves actually below 1.5%

- Emergency Resources
- Begin Firm Load Curtailments
Participating Load Program (PLP)

• Participation in ISO markets (not limited to summer):
  – Ancillary Services (Non-Spinning Reserve and Replacement Reserve)
    • Capacity payment if successful in Day Ahead auction
    • Energy payment if dispatched in real-time
  – Supplemental Energy
    • Energy payment if dispatched in real-time
Participating Load Program (PLP)

- A Scheduling Coordinator bids a Load into the markets as agreed by the Load
- Dispatch occurs through ISO Automated Dispatch System to the SC
- Settlements occur through the SC
- Accommodates aggregated Loads 1MW and greater
Participating Load Program - What’s needed

1) Participating Load Agreement with ISO

2) Load, ESP, or Aggregator Relationship with SC
   - SC schedules load and receives dispatch notifications through Automated Dispatch System
   - SC is responsible for submitting Settlement Quality Meter Data
Participating Load Program - What’s needed

3) Review and adhere to Technical Standards
   - Operational Requirements (scan rates, visibility, characteristics to provide A/S)
   - Telemetry requirements for A/S only, not Supplemental Energy
   - Metering Infrastructure required
   - Security and Meter Data Validation
Participating Load Program - What’s needed

4) Conduct Participating Load Acceptance Test (PLAT)
   - PLAT validates connectivity stability
   - Connectivity made using a Data Processing Gateway (DPG) similar to telemetry for Generators.
   - ISO encourages other vendor solutions for data processing applications
Participating Load Program - What’s needed

5) Settlement Quality Meter Data (SQMD)
   - Ensure that SQMD is available to the ISO revenue Meter Data Acquisition System (MDAS)

6) Conduct A/S certification
   - A/S testing for certification described in ISO Operating Procedure G-213
Demand Relief Program (2001)

- Program operates from June through September
- Last Step Before Firm Load Curtailments
- Length of interruption is 4 hrs (2 equal blocks) between 11am and 7pm
- Max monthly operation is 24 hrs
- Curtailment is Optional after 24 hr limit is met; energy payment for extra curtailments in May & Oct
- Monthly Reservation Payment
- Energy Performance Payment
Demand Relief Program (2001)

- Requires Demand Relief Agreement with ISO
- Interval Meter Required
- Single or Aggregated Loads $\geq 1\text{MW}$
- Meter Data Submitted to ISO Outside Normal Settlements Process
- ISO Performs Performance Calculations
- Program runs from June 1 to Sept. 30, 2001
California ISO
Discretionary Load Curtailment Program (DLCP)

- Flexible Metering Requirements
  - Interval Meter, Statistical Estimation, Sub-Metering
- Performance Calculated by Approved Measurement and Verification Plan
- Curtailment Requested on a Day-Ahead or Day-Of Basis
- Participant Selects Times to Curtail
- ISO Provides Confirmation
DLCP continued

- Settlements through SC
- DLCP Agreement with ISO required
- Performance Rate starting at $350/MWhr
- “Open” enrollment through March 31, 2002
Voluntary Load Curtailment Program

- Operated throughout the year after the ISO has declared a Stage 1
- Voluntary Load Participants notify the ISO to be on a pre-defined broadcast list; no compensation is made for curtailment
- Curtailment requests issued to pre-defined list via e-mail
Contact Information

• Contracted Loads are assigned an ISO Client Relations Representative
• General inquiries can be e-mailed to Keoni Almeida (kalmeida@caiso.com) or Cathy Young (cyoung@caiso.com).