Memorandum

To: Grid Reliability/Operations Committee and Market Issues/ADR Committee

From: Donald L. Fuller, Director, Client Relations
Barbara Kindel, Director, Operations Systems
Jim Detmers, Director, Operations Engineering

CC: ISO Board of Governors; ISO Officers

Date: March 17, 2000

Re: Load Participation in ISO Markets

Board action is requested on this topic in March to facilitate summer 2000 readiness.

EXECUTIVE SUMMARY

Demand responsiveness is key to increased efficiency in the California energy markets and also to providing additional resources to the ISO to meet rising Demands during the summer months. This report discusses the two trial Load Participation programs proposed for summer 2000 implementation.

The first program involves load participation in the Ancillary Service Reserve (Non-Spin and Replacement) and Supplemental Energy Markets - the Ancillary Service Load Program. This program approach was approved by the Board in 1999. Participants have been positive about recent changes by the ISO in the Technical Standards and settlement details, e.g. relaxed No-Pay provisions, made in response to Participant requests for additional flexibility. They indicate there could be several hundred MWs available through this program this summer, mostly in Replacement Reserve. The program would benefit from an approval by the CPUC allowing loads on interruptible tariffs to participate in the Ancillary Service Load Program.

The second program is referred to as the Demand Relief Program and involves a new bidding/contracting approach to further encourage Load participation. It will create a population of Load that is willing to curtail after other market options are exhausted, i.e. either before or after a Stage 2 Emergency. Two alternative options for this program were developed based on straw-proposals submitted by participants. Feedback from potential participants has been very positive on this program also; the expected participation in this product is in the hundreds of MWs as well. Board approval is sought for the proposed approach before the formal Request for Bids (RFB) is issued. Also Board approval is sought for tariff amendments necessary for the ISO's recovery of costs incurred in connection with the program.

RESOLUTION

MOVED, that the Committees recommend that the Board authorize the President and Chief Executive Officer, or his designee, to (1) enter into and file with FERC Participating Load Agreements with successful respondents to the Ancillary Service Load Program in the form of the Pro Forma PLA modified as necessary to meet existing Tariff requirements applicable to successful respondents having Loads currently on a UDC interruptible rate schedule; (2) file Tariff language to provide for recovery of costs incurred under the Demand Relief Program substantially in the form attached hereto; and (3) proceed with issuance of the Demand Relief Product Request for Bids, subject to Board approval of the final selections at the April Governing Board meeting.

BACKGROUND

The importance of Load participation has been noted during the A/S Redesign Project, the Market Redesign 2000 activity and during the Governing Board deliberations on price caps during 1999. Facilitating Demand responsiveness will provide additional resources that are important during the summer months. Further, demand responsiveness is key to increased efficiency in the California energy markets. It is also hoped that experience gained will help design a replacement for the existing UDC interruptible programs, when they expire March 31, 2002.

The ISO has worked with interested participants to develop two trial programs proposed for the summer of 2000 to encourage Demand participation from a broad range of loads. The ISO hosted a stakeholder meeting on February 22 to discuss both programs with participants. There have been several discussions with participants since that time to fine-tune the Technical Standards and settlement details for the Summer 2000 Ancillary Service Load Program and to further develop the Demand Relief Program. The programs will be discussed separately below.

ANCILLARY SERVICE LOAD PROGRAM

The first program involves Load participation in the Ancillary Service Reserve (Non-Spin and Replacement) and Supplemental Energy Markets – the Ancillary Service Load Program. This program approach was approved by the Governing Board in 1999. The ISO and participants have worked on the Technical Standards for the Ancillary Service Load Program for several months.

In response to stakeholder concerns that the technical requirements were too restrictive, ISO Management has changed certain standards in the trial program for June 15 to October 15, 2000 (summer 2000). Under the proposed trial program, the ISO agreed to relax scan rates for EMS telemetry, relax "No-Pay" provisions, and change the meter data requirements. The ISO has initially limited summer 2000 Load participation to 400 MW for Non-Spinning Reserve, 400 MW for Replacement Reserve, and 1,000 MW for Supplemental Energy.

An informal survey of participants indicates an interest from Loads representing several hundred megawatts to participate this summer based on the revised Technical Standards.

The final Technical Standards were issued to all Market Participants on February 29 together with a request to submit proposals to the ISO by March 23. The ISO expects to complete a selection of candidates by March 31 based on:

- The Participating Load's capability to commence providing the services proposed on June 15, 2000;
- The Participating Load's operating characteristics, including capability to fully meet the reliability concerns described in the Market Notice requesting participation;
- The location of the individual loads comprising a Participating Load, including their relationship to areas of Congestion;
- Respondent's agreement to execute a PLA consistent with the PLA *Pro Forma*, modified as necessary to permit participation by a load already on a UDC interruptible rate schedule;
- Respondent's agreement to execute an applicable ISO Meter Service Agreement;
- The scope and feasibility of Respondent's implementation plan for compliance with the Market Participating Load Technical Standards for Summer 2000; and
- Whether any of the individual loads are already participating in an existing load curtailment program.

A key issue in this program is local regulatory approval to allow Loads currently on interruptible tariffs to participate. Some of the UDC interruptible tariffs currently prohibit participation by a Load in both an interruptible tariff and the ISO Ancillary Service markets.

DEMAND RELIEF PROGRAM

The Demand Relief Program is the second product being offered on a trial basis by the ISO for the summer of 2000, to further encourage Demand responsiveness and to provide additional resources to the California grid during the summer months.

During development of the Ancillary Service Load Program, several potential Load participants expressed concern over the fact that the nature of their business wouldn't support the Ancillary Service Load program, even though they were interested in some form of load program to support grid reliability. They often require that curtailments extend over multiple hours. Further, the economics of the Ancillary Service Load Program and the technical requirements of the 10-minute markets didn't support their participation.

To meet this need and to further extend the Load participation programs, the California ISO is proposing a new trial Demand Relief Program. It seeks to enlist individuals or groups willing to provide a net demand reduction for a specified time upon request. This will be a trial program for summer 2000. The ISO will be seeking a net cumulative Demand reduction of approximately 1000 MW during the summer 2000 peak period. This program is being designed with extensive assistance from Market Participants.

The ISO proposes to contract for the Demand Relief Program during the period between June 15, 2000 through October 15, 2000. Two options have been developed with the help of stakeholders, one would operate before Stage 2 emergencies and would have a capacity reservation payment, and one would operate after Stage 2 and would receive an energy-only payment when dispatched. More detailed descriptions of each program are attached. The ISO seeks Board approval of the issuance of a Request for Bids for one of the two options this month and would plan to bring the bid results and recommended selections back to the Governing Board in April before notification is made to selected participants.

Amendments to the ISO Tariff are required to permit ISO recovery of costs incurred under either option. Board approval is also sought for the draft Tariff amendments attached to this memo.

There are three additional issues that we seek Board guidance on:

1. For the Demand Relief Program, do we proceed with the pre-Stage 2 Capacity Reservation Option or the post-Stage 2 As-used Energy Option?
2. How do we charge the market to recover the costs of the Demand Relief Program?
3. Can Loads participate in multiple programs?

ISSUE 1 – COMPARISON OF THE TWO OPTIONAL DEMAND RELIEF PROGRAMS

The two options discussed with stakeholders are attached to this memo. They are compared below:

	Before Stage 2 Capacity Reservation Option (+ uninstructed energy)	**After Stage 2 – As-used Energy Option**
Features	Capacity payment paid monthly, based on a capacity reservation of 40 hours per week and the option to call on the load resource up to 30 hours per month. Energy paid through Instructed Imbalance Energy price Called after all generating resources dispatched.	Energy only payment paid when a resource is dispatched. (Presumably the Energy price would be above the price cap.) Energy payment would include Instructed Imbalance price. No capacity payment. Called when Stage 2 resources are not sufficient.
Pros	Would reduce Stage 2 emergency calls Would not exceed the price caps. Would provide more experience with the trial program to help design future programs Will attract resources that would not participate without a capacity payment.	Easier to justify the cost if this is an emergency program after stage 2. Some have stated that since the UDC load curtailment program provides 2800 MW that has already been paid for, it should be used first. Will attract resources that wouldn't otherwise participate. Some don't want to participate in voluntary curtailments, but would participate after Stage 2.
Cons	Could cause resources to migrate from A/S Load Program to this program.	This option would require Energy prices in excess of the price caps, which raises a comparability issue with price caps established for the markets.

ISO Management recommends the Pre-Stage 2 Capacity Reservation option. By using resources before Stage 2, the program would provide a Demand responsiveness solution that will help prevent emergency conditions. Also, the capacity payment approach provides greater consistency in our market design because the price caps would not be exceeded. In addition, if deployed as a pre- Stage 2 option, this more effectively represents a proxy for demand responsiveness in the market. Both options will be discussed again with Participants on Monday March 20. Feedback from this discussion will be shared with the Board verbally during the March 21 presentation.

ISSUE 2 - METHOD FOR CHARGING COST OF THE DEMAND RELIEF PROGRAM TO THE MARKET

Two methods have been discussed for charging the market for the costs of the Demand Relief Program. One would spread the costs on a pro-rata basis to Loads and Exports. The other would spread the costs based on those whose Load exceeds Generation in real-time. Some maintain that certain entities should be exempted from any charges. A comparison appears below.

	Charge to Load and Export	**Charge Allocated to "People that caused the Problem"**
Pros	Consistent with the charging mechanism for out-of-area, out of market Energy contracts arranged during pending emergency conditions. Since it is a reliability product, it protects the grid integrity for everyone, and should be charged to all. Much simpler to administer in settlements.	Some state that the parties that arguably caused the problem should pay, not those that maintained balanced schedules through real-time.
Cons	Spreads costs to everyone as opposed to those who "created the problem". Likely to be opposed by some parties, e.g., municipals.	One of the intents of Deviation Replacement Reserve was to provide an incentive to schedule accurately and to balance Load and Generation in real-time. The settlement would be very complex and require charge type and settlement file changes. It does not seem cost-effective to make these changes for everyone for a 4-month trial program.

ISO Management prefers charging on a pro-rata basis to Load and exports for this trial period, because the program benefits the entire grid. (The proposed Tariff Amendments are based on this approach.) Under-scheduling of Load was addressed by the A/S Redesign element referred to as Deviation Replacement Reserve. The simplicity of this approach is easily implementable for the summer of 2000. Management further recommends that summer 2000 data be studied to determine impacts on all parties to ascertain if this charging approach should be modified in the future.

ISSUE 3 – PARTICIPATION IN MULTIPLE DEMAND RESPONSIVENESS PROGRAMS

For the summer of 2000, there will be at least 4 Load participation programs available in California:

1. ISO Ancillary Service Load Program
2. ISO Demand Relief Program
3. UDC Interruptible Tariff Program

4. New UDC Advice Letter recommendation involving Day-Ahead Energy markets.

Management recommends:

A. Loads in the Demand Relief Program should not be involved in any of the other 3 demand responsiveness programs. It is important to be able to distinguish these resources since they will be used to mitigate pending emergency conditions. If they were in two programs, it would render this program ineffective. The ISO would consider allowing a given entity the ability to participate in the Demand Relief Program and the UDC interruptible tariff, if they could prove that there was no duplication in the load offered in each program.

B. The ISO A/S Load Program can operate with Loads under a UDC interruptible tariff, provided approval is granted by the CPUC and the ISO proposed payment reduction is accepted. The ISO believes that Loads should have the option to participate in both programs. In the rare cases where a real-time dispatch call was made simultaneously with a curtailment notice to the same Load, that Load would forfeit the A/S and Energy payment for that time where both programs are asking for Load reduction.

C. Assuming that Loads cannot be on both of the UDC Programs, identified as 3 and 4 above, it could be possible for someone to participate in both the new UDC program for DA Energy markets and the ISO AS Load Program. However, the ISO plans to **not** permit this participation, due to the complications of managing and administering this multiple participation while still providing confidence to the dispatchers that the load is available and able to curtail. (Also note that if the ISO would pursue this joint participation, CPUC approval would be necessary.)

FUTURE DIRECTION ON NEW LOAD PROGRAMS

The ISO hopes that the two trial programs offered will attract a diversity of Load participation. It will allow the ISO to test and judge the adequacy of the technical standards and to test various Loads' ability to participate in the ISO markets and Demand Relief Program. The ISO intends to use the knowledge and experience gained from the summer 2000 trial load programs to further refine its programs for operations and increased market participation in 2001 and beyond.

The responses for the A/S Load Program are expected on March 23. The ISO expects to make final decisions on participation in that program by 3/31. With the Board's approval, Tariff changes will be filed with FERC on April 3, and modified PLA provisions should be filed with FERC by April 10.

Results from the Demand Relief Program bidding will be reviewed with the Board in April before final selection decisions are rendered. A complete schedule of activities appears below:

March 17	Draft tariff language issued to market participants for comment
March 20	Conference call on Board memos and ISO recommendations
March 21-22	Review at Governing Board Meeting, Board approval to issue RFB
March 23-24	Issue Demand Relief Program RFB
March 23	Responses due to ISO for Ancillary Service Load Program
March 27	Conference call with participants on Demand Relief Program
March 29	Last day for participant comment on tariff language
March 31	Selections completed for participants in A/S Load Product

April 3	File tariff language at FERC
April 10	File any modified PLAs with FERC for Ancillary Service Load Program
April 13	RFB responses for demand relief program due to ISO
April 26-27	Governing Board meeting – Review results of bid process for Demand Relief Program
April 28	Notice of bids selected for Demand Relief Program

California Independent System Operator
Demand Relief 2000
Version 3

Capacity Payment Option
-- REVIEW DRAFT --
March 17, 2000

Objective

The objective of the California Independent System Operator (ISO) Demand Relief (DR) 2000 program is to enlist individuals or groups willing to provide a net Demand reduction in a specified time upon request per ISO Tariff section 2.3.5.1.3. This will be a trial program for summer 2000. The ISO will be seeking a net cumulative Demand reduction of approximately 1000 MW during the summer 2000 peak period. The ISO proposes to contract for DR service during the period between June 15, 2000 through October 15, 2000.

The ISO will hold a capacity auction / Request for Bid prior to June 2000 to secure approximately 1000 MW of Load reduction service for weekday operation of the 16 weeks beginning June 19, 2000.

Eligibility Criteria

Eligible participants must satisfy all the following criteria:

1. Provide an average Demand reduction for the single facility or aggregated facilities greater than or equal to 1.0 MW.
2. Must presently not be a participant in any of the UDC interruptible and curtailable Load programs or the ISO Summer 2000 Market Participating Load Trial Program for the same Load offered in this program, in order to avoid overlap between Demand reduction programs.
3. Must not have a Participating Load Agreement (PLA) with the ISO for the same Load offered under this program, in order to avoid overlap between Demand reduction programs.
4. Must not have a Generating Unit on-site that has a Participating Generator Agreement (PGA) with the ISO or is operating in parallel with the ISO Controlled Grid.

The DR program is intended to be a Load program. Allowing Generators that have a PGA or are operating in parallel to the ISO Controlled Grid to participate in this program will essentially equate to removing that capacity from the California Energy market. Eligibility criterion # 4 is required to eliminate this undesirable effect.

Under no circumstance should the participants be allowed to curtail Demand at one meter and increase consumption at another meter at the same facility (details for ensuring compliance with this requirement are yet to be determined).

Call Periods and Conditions

The ISO can call upon the participants in this DR program to provide the specified Demand reduction in case of or to avert System Emergencies. The program may be implemented following the ISO's declaration of a Warning or Stage 1 Emergency Condition and prior to the activation of the existing UDC curtailable and interruptible Load management programs. The ISO will exercise its right to implement this program on weekdays only, up to 30 hours per month.

Participants in this trial program will not be called for Inter or Intra-Zonal Congestion.

Call Mechanism

All groups or individuals selected to participate in DR program must secure the services of a MDAS certified Scheduling Coordinator (SC). The SC will be required to maintain a dedicated phone line connected to a dedicated fax machine, an electronic mail (e-mail) address, and a pager capable of receiving an electronic page (e-page). The ISO will send a mass fax, e-mail, and an e-page to the appropriate program SCs signaling the start of the DR program.

The ISO will only send one fax, e-mail, and e-page per SC. It will be the responsibility of the SC to ensure that all affected facilities scheduled by that SC are informed of the details of the Demand reduction instruction. All the participants in the DR program will be obligated to reduce the metered Demand at their facility (facilities) by the contracted amount within thirty (30) minutes of receipt of the ISO notice by their SC. The time stamp on the fax notice will be used in the Settlement process for verification.

The call for Demand reduction can be made at any point during the hour. Each call will last for a period of no less than two (2) hours, but could last up to a maximum of seven (7) hours. In general, the ISO will provide a start and end time for each call.

Compliance - Calculation to Confirm Demand Reduction

Average Demand in hour "i" = Average Demand in MWh during the hour "i" for ten previous uninterrupted, non-holiday recorded weekdays

$$= \frac{\text{Sum of the MWh consumed during hour "i" for ten previous uninterrupted, non-holiday recorded weekdays}}{\text{10 (Total number of hours)}}$$

Demand Reduced During Hour "i" = Average Demand in hour "i" – Average Metered Demand at the facility (average group Demand) during hour "i" on the day of the Call

where,

Average Metered Demand during hour "i" = Total MWh consumed at the facility (group of facilities) during hour "i" on the day of the Call

Capacity Auction

The ISO will evaluate all capacity bids within the total program cost to be approved by the ISO Governing Board.

Scheduling, Metering, Billing, and Settlement

Capacity awards will be paid by the ISO on a monthly basis and will be charged to Market Participants as noted below.

Payments for the Energy component of the DR program will be settled at the Instructed Imbalance Energy price through the normal Market Settlements for Load deviations.

Scheduling, metering and reporting of Settlement Quality Meter Data (SQMD) for DR program participants must be undertaken separately from other Loads scheduled by the SC. It will be the responsibility of the SC to provide the ISO SQMD under the same timelines and standards as described in ISO Tariff and Metering Protocol. The SC will be required to submit SQMD for each scheduled resource participating in its DR contract portfolio. The participants in the program must have interval meters approved by the Local Regulatory Authority.

To establish the required data to calculate the Demand reduction amount, the SC shall Schedule the DR contract portfolio separately from their other Loads at least 14 days before the beginning of the DR contract period and throughout the remainder of the contract period. The Demand data will be used to verify compliance of the Demand reduction as well as for Settlement purposes.

Payments for participation in the DR program will be charged to **Scheduling Coordinators pro rata based on metered Demand (including exports)**.

Compliance Information

Compliance with ISO requests for DR will be mandatory. The ISO will audit the performance with respect to the average Demand offered for each participant on a monthly basis. The full monthly capacity payment will be paid when the performance exceeds 90%. For performance less than or equal to 90%, the capacity payment will be reduced as follows:

Performance	Capacity Payment Reduction
75% - 90%	25%
50% - 75%	50%
25% - 50%	75%
0% - 25%	100%

If the ISO has issued multiple requests for DR within a single month, the average performance will be used to determine compliance. In the calculation of this average performance, the performance of any individual request for DR will be capped at 100%. Superior performance for one request will not offset deficient performance in another.

Requested Information

The ISO intends to issue a request for bids from interested parties for participation in this program, which request would require submittal of the following information:

- Name, location, and meter number of the facility. If the Demand reduction is being provided by a group of facilities, the ISO requires a list of the names, locations, and meter numbers of all the facilities.
- Name of the DR program contact person.
- Average facility Demand during the hours 1200 – 1800 in the period between June 15, through October 15, 2000.
- Average Demand relief offered in MW.
- Expected time to implement the DR program.
- Details regarding any on-site Generating Units (both primary and backup) at the facility(ies).

- Bid price in $/MW-month for participating in the DR program. The total capacity payment for participation in the program will be four times the bid price, subject to adjustments for compliance.

The ISO intends to evaluate each response on the basis of the price bid and the other characteristics requested above. The ISO reserves the right to accept or reject any proposals.

ISO Contact

For details regarding the DR program, contact Jim Detmers, Director of Engineering and Maintenance at the ISO, at (916) 351-2123.

California Independent System Operator
Demand Relief 2000
Version 5

Energy Payment Option
-- REVIEW DRAFT --
March 17, 2000

Objective

The objective of the California Independent System Operator (ISO) Demand Relief (DR) 2000 program is to enlist individuals or groups willing to provide a net Demand reduction in a specified time upon request per ISO Tariff section 2.3.5.1.3. This will be a trial program for summer 2000. The ISO will be seeking a net cumulative Demand reduction of approximately 1000 MW during the summer 2000 peak period. The ISO proposes to contract for DR service during the period between June 15, 2000 through October 15, 2000.

For every instance the ISO exercises its authority under this proposal, the participants would receive an Energy payment only, which would be based on a fixed $/MWh price that would be bid by the participant(s) in their proposals. The ISO would have the right to request the participants in the DR program to provide Demand reduction no more than four (4) times per month.

Eligibility Criteria

Eligible participants must satisfy all the following criteria:

5. Provide an average Demand reduction for the single facility or aggregated facilities greater than or equal to 1.0 MW.
6. Must presently not be a participant in any of the UDC interruptible and curtailable Load programs or the ISO Summer 2000 Market Participating Load Trial Program for the same Load offered in this program, in order to avoid overlap between Demand reduction programs.
7. Must not have a Participating Load Agreement (PLA) with the ISO for the same Load offered under this program, in order to avoid overlap between Demand reduction programs.
8. Must not have a Generating Unit on-site that has a Participating Generator Agreement (PGA) with the ISO or is operating in parallel with the ISO Controlled Grid.

The DR program is intended to be a Load program. Allowing Generators that have a PGA or are operating in parallel to the ISO Controlled Grid to participate in this program will essentially equate to removing that capacity from the California Energy market. Eligibility criterion # 4 is required to eliminate this undesirable effect.

Under no circumstance should the participants be allowed to curtail Demand at one meter and increase consumption at another meter at the same facility (details for ensuring compliance with this requirement are yet to be determined).

Call Periods and Conditions

The ISO can call upon the participants in this DR program to provide the specified Demand reduction in case of or to avert System Emergencies. The program will be implemented following the ISO's declaration of a Stage 2 Emergency Condition and after the implementation of the existing UDC curtailable and interruptible Load management programs. The ISO will

exercise its right to implement this program on weekdays only. The ISO will have the right to request Demand reduction under this program no more than four (4) times per month.

Participants in this trial program will not be called for Inter or Intra-zonal Congestion.

Call Mechanism

All groups or individuals selected to participate in DR program must secure the services of a MDAS certified Scheduling Coordinator (SC). The SC will be required to maintain a dedicated phone line connected to a dedicated fax machine, an electronic mail (e-mail) address, and a pager capable of receiving an electronic page (e-page). The ISO will send a mass fax, e-mail, and an e-page to the appropriate program SCs signaling the start of the DR program.

The ISO will only send one fax, e-mail, and e-page per SC. It will be the responsibility of the SC to ensure that all affected facilities scheduled by that SC are informed of the details of the Demand reduction instruction. All the participants in the DR program will be obligated to reduce the metered Demand at their facility (facilities) by the contracted amount within thirty (30) minutes of receipt of the ISO notice by their SC. The time stamp on the fax notice will be used in the Settlement process for verification.

The call for Demand reduction can be made at any point during the hour. Each call will last for a period of no less than two (2) hours, but could last up to a maximum of seven (7) hours. In general, the ISO will provide a start and end time for each call. Irrespective of the starting time of the Demand reduction call, the curtailment period will automatically terminate at 1900 hours on the day of the call.

Demand Reduction Calculation

Average Demand in hour "i" = Average Demand in MWh during the hour "i" for ten previous uninterrupted, non-holiday recorded weekdays

$$= \frac{\text{Sum of the MWh consumed during hour "i" for ten previous uninterrupted, non-holiday recorded weekdays}}{\text{10 (Total number of hours)}}$$

Demand Reduced During Hour "i" = Average Demand in hour "i" – Average Metered Demand at the facility (average group Demand) during hour "i" on the day of the Call

where,

Average Metered Demand during hour "i" = Total MWh consumed at the facility (group of facilities) during hour "i" on the day of the Call

Payment Mechanism

The payment mechanism is structured to give incentive to Loads to provide a Demand reduction that is very near to the target Demand reduction. Payment for each DR call is calculated based on the level of compliance with the DR request. Payments are calculated independently for each hour of the request and summed to determine the total

payment. A positive payment indicates that the SC will be paid the amount of the payment. A negative payment indicates that the SC will be charged the amount of the payment.

If the Demand reduction in hour "i" is greater than 110% of the target Demand reduction,

$Payment_i = 1.10 * BidPrice * TargetDemandReduction$

If the Demand reduction in hour "i" is greater than 90%, but less than or equal to 110%, of the target Demand reduction,

$Payment_i = BidPrice * DemandReduction_i$

If the Demand reduction in hour "i" is greater than 0%, but less than or equal to 90%, of the target Demand reduction,

$Payment_i = BidPrice * ((14 / 9 * DemandReduction_i) - 0.5 * TargetDemandReduction)$

If the Demand reduction in hour "i" is less than or equal to 0% of the target Demand reduction,

$Payment_i = -0.5 * BidPrice * TargetDemandReduction$

and,

$TotalPayment = \Sigma_{i=0\ to\ n}\ Payment_i$

where,

$DemandReduction_i$ is the average Demand reduction in hour i
TargetDemandReduction is the average Demand reduction offered by the SC
BidPrice is the price in $/MWH at which the SC is willing to participate in the program
$Payment_i$ is the payment in the hour under consideration
TotalPayment is the total of all hourly payments in the DR call
i = Operating hour under consideration
n = Total number of hours per each call, 2 >= n <= 7

Scheduling, Metering, Billing, and Settlement

Capacity awards will be paid by the ISO on a monthly basis and will be charged to Market Participants as noted below.

Payments for the Energy component of the DR program will be settled at the Instructed Imbalance Energy price through the normal Market Settlements for Load deviations.

Scheduling, metering and reporting of Settlement Quality Meter Data (SQMD) for DR program participants must be undertaken separately from other Loads scheduled by the SC. It will be the responsibility of the SC to provide the ISO SQMD under the same timelines and standards as described in ISO Tariff and Metering Protocol. The SC will be required to submit SQMD for each scheduled resource participating in its DR contract portfolio. The participants in the program must have interval meters approved by the Local Regulatory Authority.

To establish the required data to calculate the Demand reduction amount, the SC shall Schedule the DR contract portfolio separately from their other Loads at least 14 days before the beginning of the DR contract period and

throughout the remainder of the contract period. The Demand data will be used to verify compliance of the Demand reduction as well as for Settlement purposes.

Payments for participation in the DR program will be charged to **Scheduling Coordinators pro rata based on metered Demand (including exports)**.

Requested Information
The ISO intends to issue a request for proposals from interested parties for participation in this program, which request would require submittal of the following information:

- Name, location, and meter number of the facility. If the Demand reduction is being provided by a group of facilities, the ISO requires a list of the names, locations, and meter numbers of all the facilities.
- Name of the DR program contact person.
- Average facility Demand during the hours 1200 – 1800 in the period between June 15, through October 15, 2000.
- Average Demand relief offered in MW.
- Expected time to implement the DR program.
- Details regarding any on-site Generating Units (both primary and backup) at the facility.
- Bid price in $/MWh for participating in the DR program.

The ISO intends to evaluate each proposal on the basis of the price bid and the other characteristics requested above. The ISO reserves the right to accept or reject any proposals.

ISO Contact
For details regarding the DR program, contact Jim Detmers, Director of Engineering and Maintenance at the ISO, at (916) 351-2123.

ATTACHMENT to Load Participation Memo

Proposed Tariff Amendments Providing For ISO Recovery of Costs To Be Incurred Under Demand Relief Program

Add the following Sections to the ISO Tariff:

11.2.10 Payments Under Section 2.3.5.1 Contracts

The ISO shall calculate and levy charges for the recovery of costs incurred under contracts entered into by the ISO under the authority granted in Section 2.3.5.1 in accordance with Section 2.3.5.1.8 of this ISO Tariff.

* * *

2.3.5.1.8 Except where and to the extent that such costs are recovered from Scheduling Coordinators pursuant to Section 2.5, all costs incurred by the ISO in any hour pursuant to any contract entered into under this Section 2.3.5.1 shall be charged to each Scheduling Coordinator pro rata based upon the same proportion as the Scheduling Coordinator's metered hourly Demand (including exports) bears to the total metered hourly Demand (excluding exports) served in that hour.