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ORIGINAL

December 15, 2003

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FEDERAL ENERGY
REGULATORY COMMISSION

The Honorable Magalie R. Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: **San Diego Gas & Electric Company, et al.**
Compliance Filing
Docket Nos. EL00-95-091 and EL00-98-078

Dear Secretary Salas:

The California Independent System Operator Corporation ("ISO")¹ respectfully submits six copies of this filing in compliance with the Commission's November 14, 2003 order issued in the captioned dockets concerning the ISO's April 14, 2003 compliance filing submitted in those dockets, 105 FERC ¶ 61,196 ("November 14 Order"). As described below, the ISO proposes changes to comply with the November 14 Order.

The ISO is simultaneously filing for rehearing of one aspect of the November 14 Order – paragraph 17, which concerns the requirement for the ISO to develop a process for forward scheduling of minimum load energy produced in compliance with the must-offer requirement. The ISO is requesting a stay of this compliance obligation and expedited consideration of its request for rehearing to prevent an unnecessary expenditure of significant resources that could be better employed towards market redesign activities and implementation of the market re-runs to precede the re-run in the California refund proceeding (Docket Nos. EL00-95, *et al.*).

¹ Capitalized terms not otherwise defined herein are used in the sense given in the Master Definitions Supplement, Appendix A to the ISO Tariff.

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Currently, minimum load energy produced in compliance with the must-offer requirement is not forward scheduled but is both paid its costs and is settled as uninstructed imbalance energy. In Phase 1B of the comprehensive redesign of the California wholesale electricity markets ("MD02"), the ISO had proposed to eliminate this inadvertent double payment by maintaining that minimum load energy would not be forward scheduled, but would be settled as instructed imbalance energy and paid an uplift as needed to ensure it recovered its costs. In Phases 2 and 3 of MD02, minimum load energy would be scheduled against actual load if the unit is committed through the Integrated Forward Market. If the unit is committed through the Residual Unit Commitment process, the minimum load energy amount would be submitted into the Hour-Ahead Market through a price-taker bid to maximize the likelihood that it would be scheduled against actual load. If the minimum load amount did not clear the Hour-Ahead Market, it would be submitted as a price-taker bid in the real-time imbalance energy market. In either case, the ISO would pay an uplift to ensure that the minimum load energy earned its bid price if the market price were below its bid price. In response to the Commission's directive, the ISO has examined the cost of implementing the forward-scheduling system described by the Commission. As explained in the attached affidavit of Donald Fuller, Director of Settlements, such a system would take a minimum of four months to develop with a cost that may well exceed half a million dollars. As the ISO's current systems provide for appropriate tracking and payment of Minimum Load Costs, the fact that such a forward scheduling methodology would be superseded in the approved market redesign, and the limited value of creating a system that cannot and does not match minimum load energy with real Demand, and therefore does not alleviate the effects of minimum load energy on the imbalance energy market, the ISO urges the Commission to act on that request for rehearing expeditiously. The ISO hopes to avoid the expense as well as the adverse effect on the approved Phase 1B modifications. By ruling quickly on the request for rehearing, the ISO believes the Commission can limit the expense and effect on the Phase 1B systems and benefit Market Participants.

I. PROPOSED CHANGES

A. Application of the Tolerance Band

While the Commission had previously approved the use of a Tolerance Band when the unit is operating at minimum load,² the November 14 Order

² *San Diego Gas & Electric Co., et al.*, 101 FERC ¶ 61,112, at P 8 ("The Commission

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rejected the application of a Tolerance Band when a unit is dispatched above minimum load. November 14 Order at P 7. The ISO now submits Tariff sheets that revise Section 5.11.6.1.1 of the Tariff to delete the application of the Tolerance Band when a generating unit operating under the must-offer obligation is dispatched above its minimum load. The ISO submits two versions of Section 5.11.6.1.1. The first, which will apply until the Phase 1B modifications are put into effect, deletes language applying the Tolerance Band when a resource is dispatched above its minimum load level. The second, which will apply after the Phase 1B modifications are put into effect, includes language that the ISO submitted in its November 21, 2003 filing in compliance with the Commission's October 22, 2003 order on Amendment No. 54, *California Independent System Corporation*, 105 FERC ¶ 61, 091 (2003) ("Amendment No. 54 Order"); this language that has already deleted the application of the Tolerance Band to energy dispatched above minimum load. The ISO acknowledges that it failed to delete the phrase "subject to performance within its relevant Tolerance Band" from the end of Section 5.11.6.1.1 when it submitted its November 21, 2003 compliance filing. Dynegey/Williams noted this oversight in their "Joint Protest to the California Independent System Operator Compliance Filing" submitted in the Amendment No. 54 proceeding on December 12, 2003. The ISO now deletes this phrase from the Tariff language that will take effect when the Phase 1B modifications are put into service.

B. Operations and Maintenance Adder

The November 14 Order directed the ISO to delete language referring to "the FERC-approved Operations and Maintenance adder (\$/MWh) in effect at the time" and to restore the reference to the \$6.00/MWh O&M adder in Section 5.11.6.1.2 of the Tariff. November 14 Order at P 9. The ISO now submits revised Tariff sheets that comply with this directive.

C. Scheduling Minimum Load Energy

When the Commission instituted the must-offer obligation, it directed that the ISO must compensate a unit for its actual costs during each hour when that generator is: (1) not scheduled to run in a bilateral agreement; (2) not on a

found reasonable the ISO's tolerance band to deny recovery of Minimum Load Costs for units that produce a quantity of energy that varies by more than the tolerance band", and P 12 ("With respect to the 5 MW or 3% limitations [i.e., the Tolerance Band], the provision is sufficiently clear that it refers to units operating at minimum load and no further revision is necessary") (2002).

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planned or forced outage; and (3) running in compliance with the must-offer obligation but not dispatched by the ISO.³ Because the ISO is not a party to bilateral contracts, and therefore cannot know the terms of delivery, the ISO has to assume that a forward schedule is evidence of a bilateral contract. The ISO therefore instructed Scheduling Coordinators that were providing minimum load energy under the must-offer obligation to not schedule the minimum load energy so that the ISO would not assume that the energy was already being paid for under a bilateral arrangement and would therefore pay Minimum Load Costs. However, in its July 15, 2002 protest of the ISO's June 24, 2002 compliance filing in the above-captioned dockets, Mirant argued that minimum load energy should be treated like energy from Reliability Must-Run units, *i.e.*, forward scheduled. The Commission subsequently agreed that Scheduling Coordinators should have the opportunity to forward schedule minimum load energy from units running under the must-offer obligation.⁴

The ISO requested pre-dispatching and forward scheduling Reliability Must-Run ("RMR") energy for two reasons. First, RMR energy, which has to be produced to maintain grid reliability, was not scheduled in the California Power Exchange ("PX") markets, so that the PX price was distorted since it did not include this energy. Second, unscheduled RMR energy that had to be produced was not matched against Demand and therefore required the ISO to obtain and use large amounts of decremental energy bids in real time to balance Demand and generation in real time. Simply requiring this RMR energy to be forward scheduled would not have addressed either of these concerns if the energy was not scheduled against real Demand. The only way to truly address these problems was to ensure that RMR energy was matched against real Demand in the forward markets. RMR energy not forward scheduled against real Demand would appear as a real-time imbalance.

Nevertheless, in the order on proposed Amendment No. 56 to the ISO Tariff, the Commission directed that the ISO create a mechanism to allow RMR Owners to forward schedule their RMR Contract Energy even if they could not find a buyer (*i.e.*, real load for) that energy.⁵ The ISO complied by providing RMR owners with a list of load identification points that the RMR Owner could "sink" their RMR energy to by also scheduling an equal amount of Demand at

³ *San Diego Gas & Electric Co., et al.*, 97 FERC ¶ 61,293, at 62,363 (2002).

⁴ *San Diego Gas & Electric Co., et al.*, 101 FERC ¶ 61,112, at P 13.

⁵ *California Independent System Operator Corporation*, 105 FERC ¶ 61,074, at P 27 (2003).

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that point.⁶ RMR energy that once had to be matched against actual Demand can now be balanced with "artificial" Demand. As a result, one of the fundamental benefits of pre-dispatching RMR energy – to provide the greatest possible opportunity for that energy to be balanced against real Demand – has been compromised.

The November 14 Order directed the ISO to "submit in its compliance filing a modification to its tariff to show that minimum load energy that is forward scheduled will still be compensated for its Minimum Load Costs." November 14 Order at P 17. In order to accomplish this, however, the ISO needed to develop a means to differentiate between forward scheduled minimum load energy that would be paid pursuant to the must-offer compensation provisions and forward scheduled bilateral transactions that are not part of the must-offer obligation. This is necessary to prevent the energy from being sold twice - once if energy had been sold in a bilateral transaction and a second time if it is minimum load energy paid by the ISO under the must-offer requirement.

The ISO proposes to provide the same treatment for minimum load energy as that adopted for RMR energy in Amendment No. 56; however, the scope and complexity of the effort greatly exceeds that required for Amendment No. 56. Each generating unit subject to the must-offer obligation must be assigned a separate Demand ID to allow the ISO to properly track and pay for the minimum load energy.⁷ Must-Offer Generators would schedule their minimum load energy not already sold in a bilateral transaction to the specific Demand ID point assigned to the specific unit, and, to comply with the existing balanced scheduled requirement, schedule an equal amount of Demand at that point. This will allow (1) the minimum load energy to be forward scheduled and (2) the ISO to determine that the minimum load has not already been sold in a bilateral

⁶ See ISO's November 17, 2003 Compliance Filing in Docket ER03-1221.

⁷ If the ISO uses one Demand ID point for more than one generating unit, the ISO cannot distinguish which generating units are scheduling their minimum load energy and which are not. As an example, assume two units with the same minimum load level of 20 MW but with different energy costs were operating at minimum load under the must-offer obligation. Assume further that one unit had sold its minimum load energy in a bilateral transaction, and was therefore not eligible to recover its Minimum Load Costs, while the other unit was eligible to recover its Minimum Load Costs. Only 20 MW of Demand was scheduled at the single Demand ID. The ISO would not be able to tell which unit had already sold its minimum load energy and which unit had not. Therefore, the ISO proposes to associate individual units with individual Demand ID points.

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transaction and therefore pay the Must-Offer Generator its Minimum Load Costs. The ISO must validate that the amount of minimum load energy scheduled is, in fact, the amount of the unit's minimum load. The ISO must modify its settlement systems so that forward scheduled minimum load energy is recognized and settled as already approved by the Commission. The ISO must modify the application it uses to determine if minimum load energy is eligible to recover its costs. Finally, the ISO must modify its settlement systems to eliminate the payment for any "artificial" Demand scheduled at the new Demand IDs. If a Must-Offer Generator schedules the minimum load energy to a point other than one of these distinct load points, the ISO will continue to recognize that such energy has already been sold in a bilateral transaction and, consistent with the Commission's prior orders, the ISO will not pay the Minimum Load Costs.⁸

The ISO submits changes to Section 5.11.6 of the Tariff to implement the mechanism described above, which will allow minimum load energy to be forward scheduled but not double-paid. This mechanism will accomplish what Mirant requested: it will provide a way for the minimum load energy to be forward scheduled.

II. IMPLEMENTATION DATE

As noted above, the ISO is submitting two versions of the Tariff language to comply with the November 14 Order. The first version will apply until the Amendment No. 54 Phase 1B modifications are placed in service (upon notice

⁸ The scope of a Generating Unit's output subject to the must-offer requirement and, accordingly eligible for payment consistent with that requirement, has excluded capacity sold under bilateral contracts, capacity committed to the ISO as Ancillary Service or capacity reserved for self-supply. This is reflected in Section 5.11.2 of the ISO Tariff, which defines "Available Generation" as generation from a non-hydroelectric Generating Unit calculated as:

The Generating Unit's maximum operating level adjusted for any outages or reductions in capacity reported to the ISO in accordance with Section 2.3 or 5.11.3 and for any limitations of the Generating Unit's operation under applicable law including contractual obligations, which shall be reported to the ISO ... minus the Generating Unit's scheduled operating point as identified in the ISO's Final Hour-Ahead Schedule ... minus the Generating Unit's capacity commitment to provide Ancillary Services to the ISO either through the ISO's Ancillary Service market or through self provision by a scheduling coordinator... minus the capacity of the Generating Unit committed to deliver Energy or to provide Operating Reserve to the Must-Offer Generators' Native Load.

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after the Phase 1B software modifications are ready). The second version will apply after the Phase 1B modifications are put into service.

To implement the mechanism to allow for forward scheduling of minimum load must-offer energy, the ISO must significantly modify its settlement systems,⁹ activate several hundred Demand ID points, and conduct a market simulation with Market Participants to test the newly activated Demand ID points. The estimated scope and cost of the work are described in the attached affidavit from Donald Fuller, Director of Settlements. The ISO expects this work to take at least four months. Given the uncertain date when the project will be completed, the ISO proposes to implement the changes associated with implementation of the forward scheduling requirement to the ISO Tariff, as described above, effective five days after notice from the ISO, unless the Commission acts favorably on the ISO's rehearing request.¹⁰ The remaining changes associated with the compliance filing will be made effective upon filing.

III. COMMUNICATIONS

Communications regarding this filing should be addressed to the following individuals, whose names should be placed on the official service list established by the Secretary with respect to this submittal:

Charles F. Robinson
General Counsel
Anthony J. Ivancovich
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⁹ The systems must be modified to ensure that no payment is made for the Demand deviation at the Demand ID used to schedule minimum load energy (because the Minimum Load Costs will be paid separately).

¹⁰ Because the ISO will be conducting market simulation testing of the changes needed to implement this system, Market Participants should have a good idea even further in advance than the five-day notice period, as to when these changes will be implemented.

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IV. ATTACHMENTS

The following documents, in addition to this transmittal letter, support this filing:

- | | |
|---------------------|---|
| Attachment A | Revised ISO Tariff sheets to be in effect until Phase 1B modifications are put into service |
| Attachment B | Black-lined ISO Tariff sheets showing proposed modifications for Tariff language to be in effect until Phase 1B modifications are put into service |
| Attachment C | Revised ISO Tariff sheets to be in effect when Phase 1B modifications are put into service |
| Attachment D | Black-lined ISO Tariff sheets showing proposed modifications for Tariff language to be in effect when Phase 1B modifications are put into service |
| Attachment E | Affidavit of Donald Fuller, Director of Settlements |
| Attachment F | A form of notice of this filing, suitable for publication in the Federal Register (also provided in electronic format) |

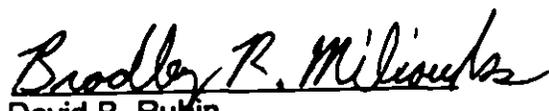
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Two extra copies of this filing are also enclosed. Please stamp these copies with the date and time filed and return them to the messenger. Feel free to contact the undersigned if you have any questions concerning this matter.

Respectfully submitted,

 ^{BRM}

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Anthony J. Ivancovich
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Date: December 15, 2003

ATTACHMENT A

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I**

**Fourth Revised Sheet No. 184D
Superseding Third Revised Sheet No. 184D**

hours outside Self-Commitment Periods. The ISO shall grant waivers so as to: 1) provide sufficient on-line generating capacity to meet operating reserve requirements; and 2) account for other physical operating constraints, including generating unit minimum up and down times. The hours outside of Self-Commitment Periods for which waivers are not granted shall constitute Waiver Denial Periods. The Waiver Denial Period shall be extended as necessary to accommodate generating unit minimum up and down times. Units shall be on-line in real time during both Self-Commitment and Waiver Denial Periods, or they will be in violation of the must-offer obligation. Exceptions shall be allowed for verified forced outages. The must-offer obligation will remain in effect for a unit's Self-Commitment Period even if the Must-Offer Generator nullifies its Day-Ahead Energy Schedules or buys back its Day-Ahead Schedules for a unit in the Hour-Ahead market. The ISO may revoke waivers as necessary due to outages, changes in Load forecasts, or changes in system conditions. The ISO shall determine which waiver(s) will be revoked, and shall notify the relevant Scheduling Coordinator(s). The ISO shall inform a Must-Offer Generator that its Waiver request has been accepted, denied, or revoked, and shall provide the Must-Offer Generator with the reason(s) for the decision, which reasons shall be non-discriminatory. The ISO will: (1) notify Must-Offer Generators of the ISO decisions on pending Waiver requests received no later than 6:00 p.m. (beginning of Hour Ending 19) no later than 8:00 p.m. (beginning of Hour Ending 21) on the day before the operating day for which the Waivers are requested; (2) at any time but no later than 8:00 p.m. on the following day, notify Must-Offer Generators of the ISO decisions on Waiver requests that were submitted to the ISO after 6:00 p.m. (beginning of Hour Ending 19) on the day before; (3) end Waiver Denial Periods at any time; and (4) revoke Waivers at any time, while making best attempts to revoke a Waiver at least 90 minutes prior to time a unit would be required to be on-line generating at its Pmin. The Scheduling Coordinator for a Must-Offer Generator shall submit a Balanced Schedule in which 1) the Demand ID is the Demand ID published on the ISO Home Page for the purpose of scheduling minimum load energy for the zone in which the Must-Offer Generator's generating unit is located and 2) the hourly scheduled MWh equals the minimum load for the generating unit for which the Must-Offer Waiver was denied or revoked. The Scheduling Coordinator for a Must-Offer

Issued by: Charles F. Robinson, Vice President and General Counsel
Issued on: December 15, 2003
Effective: Five Days After Notice From the ISO

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
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FIRST REPLACEMENT VOLUME NO. I**

Original Sheet No. 184D.00

Generator shall submit such a Balanced Schedule to the ISO for all hours in a Waiver Denial Period in which the generating unit is operating at minimum load. The Demand IDs published on the ISO Home Page for scheduling minimum load energy shall only be used for scheduling minimum load energy. The ISO shall not make any payment for Demand deviations at the Demand IDs used for scheduling minimum load energy.

**Issued by: Charles F. Robinson, Vice President and General Counsel
Issued on: December 15, 2003**

Effective: Five Days After Notice From The ISO

5.11.6.1 Recovery of Minimum Load Costs By Must-Offer Generators

5.11.6.1.1 Eligibility

Units from Must-Offer Generators that incur Minimum Load Costs during Self-Commitment Periods or during hours for which the ISO has granted to them a waiver shall not be eligible to recover such costs for such hours. When a Must-Offer Generator is awarded Ancillary Services in the Hour-Ahead market or has a Final Hour-Ahead Schedule other than a Schedule to a unit-specific Demand ID used for the purpose of scheduling minimum load energy as set forth in Section 5.11.6, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such hours within a Waiver Denial Period. When, on an hourly basis, a Must-Offer Generator generating at Minimum Load in compliance with the Must-Offer Obligation, produces a quantity of Energy that varies by more than the greater of: (i) five (5) MWh or (ii) an hourly Energy amount equal to three (3) percent (%) of the unit's maximum operating output, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such hours within a Waiver Denial Period. Subject to the foregoing eligibility restrictions set forth in this section, the ISO shall pay to an otherwise eligible Must-Offer Generator the Minimum Load Costs for each hour within a Waiver Denial Period that the generating unit runs at Minimum Load in compliance with the Must-Offer Obligation and for each hour that an otherwise eligible Must-Offer Generator generates in compliance with an ISO Dispatch Instruction.

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
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**Fourth Revised Sheet No. 184E
Superseding Third Revised Sheet No. 184E**

5.11.6.1.2 Minimum Load Costs

The Minimum Load Costs shall be calculated as the sum, for all eligible hours in the Waiver Denial Period and Settlement Periods in which the unit generated in response to an ISO Dispatch Instruction, of: 1) the product of the unit's average heat rate (as determined by the ISO from the data provided in accordance with Section 2.5.23.3.3) at the unit's minimum operating level as set forth in Schedule 1 of the Generating Unit's Participating Generator Agreement and the proxy figure for natural gas costs posted in the ISO Home Page in effect at the time, and the unit's minimum operating level as set forth in Schedule 1 of the Generating Unit's Participating Generator Agreement and 2) the product of the unit's minimum operating level as set forth in Schedule 1 of the Generating Unit's Participating Generator Agreement and \$6.00/MWh.

5.11.6.1.3 Invoicing Minimum Load Costs

The ISO shall determine each Scheduling Coordinator's Minimum Load Costs and make payments for these costs as part of the ISO's market settlement process. Scheduling Coordinators may

ATTACHMENT B

5.11.6 Waiver of Must-Offer Obligation

Must-Offer Generators may seek a waiver of the obligation to offer all available capacity, as set forth in Section 5.11.4 of this ISO Tariff, for one or more of their generating units for periods other than Self-Commitment Periods, which are defined as the hours when Must-Offer Generators submit Energy Schedules or are awarded Ancillary Services bids or self-provision schedules. Self-Commitment Periods determined from Day-Ahead Schedules shall be extended by the ISO as necessary to accommodate generating unit minimum up and down times such that the scheduled operation is feasible. All other Must-Offer Generators obligated under the Must-Offer Obligation will be deemed to have requested a waiver, either implicitly or explicitly, of the obligation to offer all available capacity. If conditions permit, and at the ISO's non-discriminatory and sole discretion, the ISO may grant waivers and allow a Must-Offer Generator to remove one or more generating units from service during hours outside Self-Commitment Periods. The ISO shall grant waivers so as to: 1) provide sufficient on-line generating capacity to meet operating reserve requirements; and 2) account for other physical operating constraints, including generating unit minimum up and down times. The hours outside of Self-Commitment Periods for which waivers are not granted shall constitute Waiver Denial Periods. The Waiver Denial Period shall be extended as necessary to accommodate generating unit minimum up and down times. Units shall be on-line in real time during both Self-Commitment and Waiver Denial Periods, or they will be in violation of the must-offer obligation. Exceptions shall be allowed for verified forced outages. The must-offer obligation will remain in effect for a unit's Self-Commitment Period even if the Must-Offer Generator nullifies its Day-Ahead Energy Schedules or buys back its Day-Ahead Schedules for a unit in the Hour-Ahead market. The ISO may revoke waivers as necessary due to outages, changes in Load forecasts, or changes in system conditions. The ISO shall determine which waiver(s) will be revoked, and shall notify the relevant Scheduling Coordinator(s). The ISO shall inform a Must-Offer Generator that its Waiver request has been accepted, denied, or revoked, and shall provide the Must-Offer Generator with the reason(s) for the decision, which reasons shall be non-discriminatory. The ISO will: (1) notify Must-Offer Generators of the ISO decisions on pending Waiver requests received no later than 6:00 p.m. (beginning of Hour Ending 19) no later than 8:00 p.m. (beginning of Hour Ending 21) on the day before the operating day for which the Waivers are requested; (2) at any time but no later than 8:00 p.m. on the following day,

notify Must-Offer Generators of the ISO decisions on Waiver requests that were submitted to the ISO after 6:00 p.m. (beginning of Hour Ending 19) on the day before; (3) end Waiver Denial Periods at any time; and (4) revoke Waivers at any time, while making best attempts to revoke a Waiver at least 90 minutes prior to time a unit would be required to be on-line generating at its Pmin. The Scheduling Coordinator for a Must-Offer Generator shall submit a Balanced Schedule in which 1) the Demand ID is the Demand ID published on the ISO Home Page for the purpose of scheduling minimum load energy for the zone in which the Must-Offer Generator's generating unit is located and 2) the hourly scheduled MWh equals the minimum load for the generating unit for which the Must-Offer Waiver was denied or revoked. The Scheduling Coordinator for a Must-Offer Generator shall submit such a Balanced Schedule to the ISO for all hours in a Waiver Denial Period in which the generating unit is operating at minimum load. The Demand IDs published on the ISO Home Page for scheduling minimum load energy shall only be used for scheduling minimum load energy. The ISO shall not make any payment for Demand deviations at the Demand IDs used for scheduling minimum load energy.

5.11.6.1 Recovery of Minimum Load Costs By Must-Offer Generators

5.11.6.1.1 Eligibility

Units from Must-Offer Generators that incur Minimum Load Costs during Self-Commitment Periods or during hours for which the ISO has granted to them a waiver shall not be eligible to recover such costs for such hours. When a Must-Offer Generator is awarded Ancillary Services in the Hour-Ahead market or has a Final Hour-Ahead Schedule other than a Schedule to a unit-specific Demand ID used for the purpose of scheduling minimum load energy as set forth in Section 5.11.6, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such hours within a Waiver Denial Period. When, on an hourly basis, a Must-Offer Generator generating at Minimum Load in compliance with the Must-Offer Obligation, produces a quantity of Energy that varies by more than the greater of: (i) five (5) MWh or (ii) an hourly Energy amount equal to three (3) percent (%) of the unit's maximum operating output, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such hours within a Waiver Denial Period. ~~When, on an hourly basis, a Must-Offer Generator generating at above Minimum Load in compliance with an ISO Dispatch Instruction, produces a quantity of Energy that varies from the total expected hourly Energy output by more than the greater of: (i) five (5) MWh or (ii) an hourly Energy~~

amount equal to three (3) percent (%) of the unit's maximum operating output, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such hours within a Waiver Denial Period.

Subject to the foregoing eligibility restrictions set forth in this section, the ISO shall pay to an otherwise eligible Must-Offer Generator the Minimum Load Costs for each hour within a Waiver Denial Period that the generating unit runs at Minimum Load in compliance with the Must-Offer Obligation and for each hour that an otherwise eligible Must-Offer Generator generates in compliance with an ISO Dispatch Instruction.

5.11.6.1.2 Minimum Load Costs

The Minimum Load Costs shall be calculated as the sum, for all eligible hours in the Waiver Denial Period and Settlement Periods in which the unit generated in response to an ISO Dispatch Instruction, of: 1) the product of the unit's average heat rate (as determined by the ISO from the data provided in accordance with Section 2.5.23.3.3) at the unit's minimum operating level as set forth in Schedule 1 of the Generating Unit's Participating Generator Agreement and the proxy figure for natural gas costs posted in the ISO Home Page in effect at the time, and the unit's minimum operating level as set forth in Schedule 1 of the Generating Unit's Participating Generator Agreement and 2) the product of the unit's minimum operating level as set forth in Schedule 1 of the Generating Unit's Participating Generator Agreement and \$6.00/MWh the FERC approved Operations and Maintenance adder (\$/MWh) in effect at the time.

ATTACHMENT C

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I**

**Fifth Revised Sheet No. 184D.01
Superseding Fourth Revised Sheet No. 184D.01**

5.11.6.1 Recovery of Minimum Load Costs By Must-Offer Generators

5.11.6.1.1 Eligibility

Units from Must-Offer Generators that incur Minimum Load Costs during Self-Commitment Periods or during hours for which the ISO has granted to them a waiver shall not be eligible to recover such costs for such hours. When a Must-Offer Generator is awarded Ancillary Services in the Hour-Ahead market or has a Final Hour-Ahead Schedule other than a Schedule to a unit-specific Demand ID used for the purpose of scheduling minimum load energy as set forth in Section 5.11.6, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such hours within a Waiver Denial Period. When, on a 10-minute Settlement Interval basis, a Must-Offer Generator generating at Minimum Load in compliance with the Must-Offer Obligation, produces a quantity of Energy that varies by more than the Tolerance Band, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such Settlement Intervals during hours within a Waiver Denial Period. When, on a Settlement Interval basis, a Must-Offer Generator's resource produces a quantity of Energy above Minimum Load due to an ISO Dispatch Instruction, the Must-Offer Generator shall recover its Minimum Load Costs and its bid costs, as set forth in Section 11.2.4.1.1.1, for any such Settlement Intervals during hours within a Waiver Denial Period, irrespective of deviations outside of its Tolerance Band. Subject to the foregoing eligibility restrictions set forth in this section, the ISO shall guarantee recovery of the Minimum Load Costs of an otherwise eligible Must-Offer Generator for each Settlement Interval during hours within a Waiver Denial Period as follows: (1) First, ISO will pre-dispatch for Real-time the Minimum Load Energy from Must-Offer Generators that have been denied waivers for each hour within a Waiver Denial Period; (2) This Minimum Load Energy will be accounted as Instructed

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: December 15, 2003

Effective: Upon Notice After September 6, 2003

CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
FERC ELECTRIC TARIFF
FIRST REPLACEMENT VOLUME NO. I

Fifth Revised Sheet No. 184E
Superseding Fourth Revised Sheet No. 184E

Imbalance Energy for each Settlement Interval within the relevant hour and be settled at the Resource-Specific Settlement Interval Ex Post price; (3) To the extent the Instructed Imbalance Energy payments are not sufficient to cover the generator's Minimum Load Cost for the hour as defined in Section 5.11.6.1.2 of this Tariff, the generator will also receive an uplift payment for its Minimum Load Cost Compensation for the relevant eligible Settlement Intervals of hours during the Waiver Denial Period that the generating unit runs at Minimum Load in compliance with the Must-Offer Obligation; and (4) To the extent the Generator is dispatched for Real-time Imbalance Energy above its minimum load for any Dispatch Interval within an hour during the Waiver Denial Period, the Generator will be eligible for Bid Cost Recovery, as set forth in Section 11.2.4.1.1.1.

5.11.6.1.2 Minimum Load Costs

The Minimum Load Costs shall be calculated as the sum, for all eligible hours in the Waiver Denial Period and Settlement Periods in which the unit generated in response to an ISO Dispatch Instruction, of: 1) the product of the unit's average heat rate (as determined by the ISO from the data provided in accordance with Section 2.5.23.3.3) at the unit's relevant minimum operating level or Dispatchable minimum operating level as set forth in the ISO Master File or as amended through notification to the ISO via SLIC and the proxy figure for natural gas costs posted in the ISO Home Page in effect at the time and the unit's relevant minimum operating level or Dispatchable minimum operating level as set forth in the ISO Master File or as amended through notification to the ISO via SLIC; and 2) the product of the unit's relevant minimum operating level or Dispatchable minimum operating level as set forth in the ISO Master File or as amended through notification to the ISO via SLIC; and \$6.00/MWh.

5.11.6.1.3 Invoicing Minimum Load Costs

The ISO shall determine each Scheduling Coordinator's Minimum Load Costs and make payments for these costs as part of the ISO's market settlement process. Scheduling Coordinators may

Issued by: Charles F. Robinson, Vice President and General Counsel

Issued on: December 15, 2003

Effective: Upon Notice After September 6, 2003

ATTACHMENT D

5.11.6.1 Recovery of Minimum Load Costs By Must-Offer Generators

5.11.6.1.1 Eligibility

Units from Must-Offer Generators that incur Minimum Load Costs during Self-Commitment Periods or during hours for which the ISO has granted to them a waiver shall not be eligible to recover such costs for such hours. When a Must-Offer Generator is awarded Ancillary Services in the Hour-Ahead market or has a Final Hour-Ahead Schedule other than a Schedule to a unit-specific Demand ID used for the purpose of scheduling minimum load energy as set forth in Section 5.11.6, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such hours within a Waiver Denial Period. When, on a 10-minute Settlement Interval basis, a Must-Offer Generator generating at Minimum Load in compliance with the Must-Offer Obligation, produces a quantity of Energy that varies by more than the Tolerance Band, the Must-Offer Generator shall not be eligible to recover Minimum Load Costs for any such Settlement Intervals during hours within a Waiver Denial Period. When, on a Settlement Interval basis, a Must-Offer Generator's resource produces a quantity of Energy above Minimum Load due to an ISO Dispatch Instruction, the Must-Offer Generator shall recover its Minimum Load Costs and its bid costs, as set forth in Section 11.2.4.1.1.1, for any such Settlement Intervals during hours within a Waiver Denial Period, irrespective of deviations outside of its Tolerance Band. Subject to the foregoing eligibility restrictions set forth in this section, the ISO shall guarantee recovery of the Minimum Load Costs of an otherwise eligible Must-Offer Generator for each Settlement Interval during hours within a Waiver Denial Period as follows: (1) First, ISO will pre-dispatch for Real-time the Minimum Load Energy from Must-Offer Generators that have been denied waivers for each hour within a Waiver Denial Period; (2) This Minimum Load Energy will be accounted as Instructed Imbalance Energy for each Settlement Interval within the relevant hour and be settled at the Resource-Specific Settlement Interval Ex Post price; (3) To the extent the Instructed Imbalance Energy payments are not sufficient to cover the generator's Minimum Load Cost for the hour as defined in Section 5.11.6.1.2 of this Tariff, the generator will also receive an uplift payment for its Minimum Load Cost Compensation for the relevant eligible Settlement Intervals of hours during the Waiver Denial Period that the generating unit runs at Minimum Load in compliance with the Must-Offer Obligation; and (4) To the extent the Generator is dispatched for Real-time Imbalance Energy above its minimum load for any Dispatch Interval within an hour during the Waiver Denial Period,

the Generator will be eligible for Bid Cost Recovery, as set forth in Section 11.2.4.1.1.1-subject to performance within its relevant Tolerance Band.

5.11.6.1.2 Minimum Load Costs

The Minimum Load Costs shall be calculated as the sum, for all eligible hours in the Waiver Denial Period and Settlement Periods in which the unit generated in response to an ISO Dispatch Instruction, of: 1) the product of the unit's average heat rate (as determined by the ISO from the data provided in accordance with Section 2.5.23.3.3) at the unit's relevant minimum operating level or Dispatchable minimum operating level as set forth in the ISO Master File or as amended through notification to the ISO via SLIC and the proxy figure for natural gas costs posted in the ISO Home Page in effect at the time and the unit's relevant minimum operating level or Dispatchable minimum operating level as set forth in the ISO Master File or as amended through notification to the ISO via SLIC; and 2) the product of the unit's relevant minimum operating level or Dispatchable minimum operating level as set forth in the ISO Master File or as amended through notification to the ISO via SLIC; and \$6.00/MWhthe FERC approved Operations and Maintenance adder (\$/MWh) in effect at the time.

ATTACHMENT E

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**San Diego Gas & Electric
Company**)
)

v.)

Docket No. EL00-95-___

**Sellers of Energy and Ancillary
Services Into Markets Operated
by the California Independent
System Operator Corporation
and the California Power
Exchange**)
)
)
)
)
)
)

**Investigation of Practices of the
California Independent System
Operator and the California
Power Exchange**)
)
)
)

Docket No. EL00-98-___

**AFFIDAVIT OF DONALD FULLER
ON BEHALF OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR
CORPORATION CONCERNING THE IMPLEMENTATION OF A SYSTEM TO
FORWARD SCHEDULE MINIMUM LOAD ENERGY FROM MUST-OFFER
GENERATING UNITS**

1. My name is Donald Fuller. I am employed by the California Independent System Operator ("ISO") as the Director of Billing and Settlements. My business address is 151 Blue Ravine Road, Folsom, California 95630.

2. I oversee the operation of the ISO's financial settlement systems to ensure that sellers, buyers and other parties interacting with the ISO markets are paid and charged appropriately according to the settlement provisions of the ISO Tariff. In my current position I oversee a staff of 33 professionals and analysts who are responsible for settling the wholesale electricity activities for all of the ISO's participants, and producing preliminary and final settlement statements and invoices. In addition, my staff is often called upon to produce estimates of the

impacts of various hypothetical changes in the ISO's Settlement procedures or in various inputs to the settlement process and to develop the algorithms and processes required to implement changes to the ISO Tariff. In my previous position with the ISO, I was Director of Client Relations for four years. My responsibilities in that position included working directly with Scheduling Coordinators on dispute related matters that impacted the ISO's settlement and billing systems.

Prior to joining the ISO, I was employed for over twenty years at Westinghouse Electric Corporation in its power generation businesses. I held various management positions during this time, most recently as Manager of Subsidiary Operations where I had direct profit/loss responsibility. I hold a B.S. degree in Electrical Engineering from Oregon State University in Corvallis, Oregon and an MBA with an emphasis in finance from Widener University in Chester, Pennsylvania.

The purpose of my affidavit is to describe the scope of the changes needed to allow Scheduling Coordinators to forward schedule minimum load energy for generating units operating in accordance with the must-offer obligation. I will also provide the ISO's preliminary estimate of the time and cost required to implement such a system.

1. Currently, minimum load energy produced by units operating under the must offer obligation is not scheduled but treated as uninstructed imbalance energy. While the ISO has consistently advocated forward scheduling, scheduling

minimum load energy provides a real benefit only when the energy is scheduled against actual Demand. Without a forward energy market, and without the ability to compel Inter-Scheduling Coordinator trades, the ISO cannot require minimum load energy to be scheduled against real Demand. The ISO is aware of the minimum load energy through its logging systems and will adjust its imbalance energy procurement in real time to account for the minimum load energy. This is why in Phase 1B of MD02, the ISO has proposed not to forward schedule minimum load energy but to settle it as instructed imbalance energy. In Phases 2 and 3 of MD02, minimum load energy under the must offer requirement will be forward scheduled either through the integrated forward market or, to the maximum extent possible, by bidding the minimum load energy of any units committed through the Residual Unit Commitment process into the Hour-Ahead market using a price-taker bid to provide the greatest opportunity for the energy to be matched with Demand in that market.

2. To provide even a temporary system to allow Scheduling Coordinators to forward schedule minimum load energy, this system must 1) ensure that the minimum load energy is eligible for minimum load cost recovery; 2) settle the minimum load energy as already approved by the Commission; and 3) eliminate the potential for paying the same quantity of minimum load energy twice by eliminating the payment for any Demand deviation resulting from a Scheduling Coordinator scheduling Demand that does not actually exist.
3. To accomplish these requirements, the ISO would need to create approximately 200 separate and distinct Demand ID points - one for each generating unit subject to the must-offer obligation. The ISO must create separate Demand IDs so that the

Demand that will be Scheduled to these special-purpose Demand ID points is not intermingled with any actual Demand that may be scheduled or metered – i.e., the ISO must be able to distinguish in its systems the forward schedules for bilateral transactions (not part of the must offer requirement and not paid minimum load costs) from any forward schedules of minimum load energy. The ISO would need to add these new Demand ID points to its network model through existing change management procedures designed to ensure that the change is appropriately designed and implemented and does not adversely affect ISO systems. The large number of proposed added Demand ID points may also require that the database be re-sized.

4. The ISO would also need to modify the application it uses to determine if minimum load energy is eligible to receive payment from the ISO and to set the price of that energy based on the unit's heat rate and the proxy gas cost. This application must be modified to recognize that minimum load energy that has been forward scheduled to special-purpose Demand ID points is eligible to be paid its minimum load costs, while energy that is forward scheduled to a different Demand ID has already been sold in a bilateral transaction and is not eligible to be paid its minimum load costs.
5. The ISO must modify its existing scheduling system to validate that any minimum load energy scheduled to a special-purpose Demand ID does not exceed the unit's specified minimum load level.
6. The ISO would need to modify the Real-Time Market Applications (RTMA) software or create a new "after the fact" settlement process so that energy scheduled to the special-purpose Demand ID points will be settled as approved by the Commission as part of Amendment No. 54 (the MD02 "Phase 1B" modifications). As approved under Phase 1B, minimum load energy will be deemed to be instructed imbalance energy and paid the imbalance energy price.

If that price is less than the unit's per-MW cost, the unit will be paid an uplift payment so that it recovers its minimum load costs. Either the RTMA or the new settlements "after-the-fact" process must recognize that Demand scheduled at the special-purpose Demand IDs in a Final Hour-Ahead Schedule is settled differently than other Demand appearing in Final Hour-Ahead Schedules. Whether the ISO modifies the RTMA, or creates a new "after-the-fact" settlements system, this work will delay the implementation of the Phase 1B modifications. The approved Phase 1-B modifications cannot be put into effect until these changes – needed to mesh the settlement of minimum load energy under Phase 1-B as unscheduled but instructed imbalance with the system in which minimum load energy will be forward scheduled - are complete.

7. Under the approved Phase 1B settlement rules, the minimum load energy for which the Demand is scheduled at the special-purpose Demand IDs is accounted for as Instructed Imbalance Energy and is paid the imbalance energy price. In addition, the ISO will pay an imbalance energy payment to Demand that is scheduled in the forward markets but not metered in real time. Because the Demand scheduled at the special-purpose Demand IDs is not actual load, and will be metered in real time at zero MWh, such Demand deviation, absent a change to the proposed Phase 1B design of the ISO's settlements' systems, would also be paid the imbalance energy price. Under those conditions, the minimum load energy would effectively be paid twice – once as imbalance energy and a second time as a Demand deviation. The ISO must modify its

market settlements systems so that any Demand deviation appearing at these special-purpose Demand IDs is not paid.

8. The changes to computer systems that require developing new code – i.e., the changes to the Must-Offer Calculator, RTMA and settlements systems that go beyond simply adding new Demand ID points – must also go through a process intended to ensure the software changes are accurately scoped, coded and tested. This process begins with gathering requirements for the new software, moves to the development of a detailed scope of work statement, advances to the coding of the new software and ends with rigorous testing.
9. The ISO must conduct an end-to-end test of all aspects of the new system in an environment intended to simulate actual market conditions. This “market simulation” allows Scheduling Coordinators to verify the scheduling and settlement process before the proposed changes are put into effect.
10. Finally, the ISO must implement the new software, again adhering to a rigorous change management to ensure that existing systems are not adversely affected. Adverse effects on existing systems could disrupt ongoing operations and reduce grid reliability.
11. Figure 1 below shows all of these processes. While some of these processes could theoretically be done at the same time (i.e., in parallel), key ISO staff are currently heavily involved in development and testing of the Phase 1B systems as well as in scoping and development of the other market design changes brought on by the MD02 effort, such as negotiating vendor contracts, writing scope of work statements, etc., in addition to the activity associated with the preparatory and California refund proceeding re-run activity, which is scheduled to

commence publishing to Scheduling Coordinators on December 18, 2003 and last for several months. As a result, the ISO cannot devote a full complement of staff resources to developing and implementing the system for scheduling minimum load energy without adversely affecting this other important work. The ISO estimates that it will take at least four months to implement the proposed system to schedule minimum load energy.

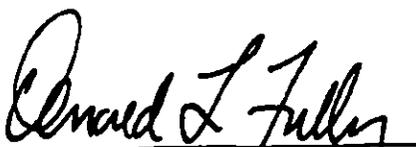
FIGURE 1

Week	Demand IDs	MLCC Calculator	Real-Time Market Applications (RTMA)	Settlements: Update 1B treatment for minimum load energy and to eliminate payment for Demand deviation
1	Define	Define requirements	Define requirements	Define requirements
2	Add to master file and network model	Define requirements	Define requirements	Define requirements
3	Add to master file and network model	Development	Define requirements	Define requirements
4		Unit testing	Development	Development
5		Scenarios – System tests	Development	Development
6			Development	Development
7			Development	Development
8			Unit testing	Unit testing
9			Unit testing	Unit testing
10			Scenarios – System tests	Scenarios – System tests
11			Scenarios – System tests	Scenarios – System tests
12		Integration testing	Integration testing	Integration testing
13			Integration testing	Integration testing
14	Market Simulation			
15				
16	Deployment	Deployment	Deployment	Deployment
Est. Cost			\$500 K	\$200 K

- The ISO estimates that the direct external costs of implementing these systems will be at least \$200,000 and could be greater than \$700,000, depending on whether the RTMA must be modified. The settlements systems changes alone are estimated to cost \$200,000. The estimated cost of modifying the RTMA, if necessary, is \$500,000. These costs are the costs of external vendors needed

to code changes to the software systems. These estimates do not reflect the internal staff time costs, such as the cost for changes to the Must-Offer Calculator and the cost for creating new Demand IDs.

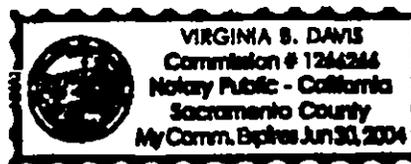
13. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.



Donald L. Fuller
Director of Settlements

Executed on December 15, 2003.

Subscribed and sworn to before
me on this 15th day of December, 2003.



Notary Public: *Virginia S. Davis*

My Commission Expires: *6-30-04*

ATTACHMENT F

**NOTICE OF FILING SUITABLE FOR PUBLICATION
IN THE FEDERAL REGISTER**

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

San Diego Gas & Electric)	
Company)	
)	
v.)	Docket No. EL00-95-___
)	
Sellers of Energy and Ancillary)	
Services Into Markets Operated)	
by the California Independent)	
System Operator Corporation)	
and the California Power)	
Exchange)	
)	
Investigation of Practices of the)	Docket No. EL00-98-___
California Independent System)	
Operator and the California)	
Power Exchange)	

Notice of Filing

[]

Take notice that on December 15, 2003, the California Independent System Operator Corporation (ISO) submitted a filing to comply with the order issued in the captioned proceedings on November 14, 2003, 105 FERC ¶ 61,196. The ISO states that the compliance filing has been served on all parties to these proceedings.

Any person desiring to be heard or to protest the filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 C.F.R. §§ 385.211 and 385.214). All such motions or protests must be filed in accordance with § 35.9 of the Commission's regulations. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make

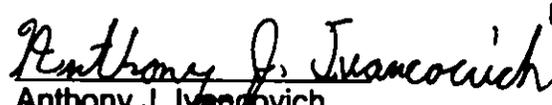
protestants parties to the proceedings. Any person wishing to become a party must file a motion to intervene. All such motions or protests should be filed on or before the comment date, and, to the extent applicable, must be served on the applicant and on any other person designated on the official service list. This filing is available for review at <http://www.ferc.gov> using the "Documents & Filing" and "eLibrary" and "General Search" links. Enter the docket number excluding the last three digits in the docket number filed to access the document. For assistance, call (202) 502-8222 or TTY, (202) 208-1659. Protests and interventions may be filed electronically via the Internet in lieu of paper; see 18 CFR 385.2001(a)(1)(iii) and the instructions on the Commission's web site under the "e-Filing" link. The Commission strongly encourages electronic filings.

Comment Date: _____

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing documents upon each person designated on the official service list compiled by the Secretary in the above-captioned proceeding, in accordance with Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California, on this 15th day of December, 2003.

^{BRM}
Anthony J. Ivanovich