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March 2, 2004

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

**Re: California Independent System Operator Corporation**
**Docket No. ER04-____-000**
**Amendment No. 58 to the ISO Tariff**

Dear Secretary Salas:

Pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d, and Sections 35.11 and 35.13 of the regulations of the Federal Energy Regulatory Commission ("Commission"), 18 C.F.R. §§ 35.11, 35.13, the California Independent System Operator Corporation ("ISO")[1] respectfully submits for filing an original and six copies of an amendment to the ISO Tariff ("Amendment No. 58"). Amendment No. 58 modifies ISO Tariff provisions regarding the implementation of a Real-Time Market Application ("RTMA") and application of Uninstructed Deviation Penalties ("UDP") previously approved by the Commission. The principles of Amendment No. 58 have been approved by the ISO Governing Board.

## I. EXECUTIVE SUMMARY

In the instant filing, the ISO seeks:

1) to clarify how the Tolerance Band will be applied to condition bid cost recovery and the application of UDP within and outside of a Waiver Denial Period;

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[1] Capitalized terms not otherwise defined herein are defined in the Master Definitions Supplement, Appendix A to the ISO Tariff, as filed August 15, 1997, and subsequently revised.

2) to clearly define constrained output generation;
3) to clarify how UDP will be applied to dynamically scheduled System Resources; and
4) to ensure that the same data is used to represent a unit's operating characteristic for both market and Reliability Must-Run ("RMR") settlements.

These modifications will provide greater clarity for Market Participants and reduce the possibility of error or dispute. As such, the ISO respectfully requests that the Commission approve these proposed modifications and allow them to be put into effect coincident with implementation of the previously-approved Phase 1-B modifications.

## II. BACKGROUND

On May 1, 2002, the ISO filed a proposal to implement UDP and a new real-time economic dispatch system. The Commission accepted the ISO's proposal in an order issued July 17, 2002. *California Independent System Operator Corporation*, 100 FERC ¶ 61,060 (2002). The Commission conditioned the implementation of UDP on (1) implementing a system to allow for real-time reporting of outages and de-rates; and (2) accommodating multiple ramp rates. *Id.* at P 141.

On July 8, 2003, the ISO submitted Amendment No. 54 to the ISO Tariff ("Amendment No. 54"). Amendment No. 54 was intended to provide details for the implementation of the market redesigns initially proposed in the May 1, 2002 filing (the "Phase 1-B" redesigns). More specifically, Amendment No. 54 provided detail on:

(1) the new real-time security-constrained economic dispatch system, including how some operating constraints would be accounted for;

(2) the application of UDP, including how UDP would be calculated, what exemptions would apply, and how UDP revenue would be allocated back to Market Participants;

(3) the determination of the Market Clearing Price, including how constrained output generating units are eligible to set the market clearing price; and

(4) the treatment of Minimum Load Costs.

On October 22, 2003, the Commission issued an order accepting much of Amendment No. 54 and directing the ISO to file complying Tariff

language in 30 days. *California Independent System Operator Corporation*, 105 FERC ¶ 61,091 (2003) ("A-54 Order"). The ISO submitted its compliance filing on November 21, 2003 ("A-54 Compliance Filing").

The instant filing contains proposed modifications to clarify details of the implementation of the Phase 1-B elements.

## III. PROPOSED TARIFF MODIFICATIONS

The ISO proposes to amend its Tariff as described below.

### A. Clarifying the Application of the Tolerance Band for Bid Cost Recovery

In Amendment No. 54, the ISO proposed to apply the Tolerance Band when it dispatched Imbalance Energy from a unit operating at Minimum Load during a Waiver Denial Period. If the unit did not operate within the Tolerance Band when Dispatched to provide Imbalance Energy, the ISO would neither ensure bid cost recovery nor pay Minimum Load Costs. The Commission rejected this proposal. A-54 Order at P 107. The ISO subsequently submitted language in the A-54 Compliance Filing that set forth that "The Tolerance Band requirement will not apply to Must-Offer Generators that produce a quantity of energy at [or] above minimum load due to an ISO Dispatch Instruction." *See* A-54 Compliance Filing, Proposed Original Sheet 247.02.

While the Commission directed the ISO not to condition bid cost recovery or Minimum Load Cost payment when the ISO Dispatched Imbalance Energy from a generating unit operating under the must-offer obligation, the sentence proposed in the A-54 Compliance Filing could be interpreted to waive the application of the Tolerance Band and assure bid cost recovery in <u>any</u> interval in which the ISO Dispatched Imbalance Energy – including those intervals outside of Waiver Denial Periods, regardless of how the unit performed in that interval. Because a unit is not eligible to recover its Minimum Load Costs outside of a Waiver Denial Period, the Tolerance Band would not apply to condition recovery of Minimum Load Costs outside a Waiver Denial Period. However, it is reasonable to apply the Tolerance Band to condition the recovery of bid costs outside of a Waiver Denial Period. Providing bid cost recovery when a resource fails to follow Dispatch Instructions will dilute the incentive to follow Dispatch Instructions. As a result, the ISO proposes to modify Section 11.2.4.1.1.1 of the ISO Tariff to make it clear that it will not condition bid cost recovery or payment of Minimum Load Costs using the Tolerance Band when the unit is Dispatched while it is operating under the must-offer obligation (*i.e.*, during a Waiver Denial Period), but that the ISO will not guarantee bid cost recovery if the unit

deviates outside of the Tolerance Band when it is not operating under the must-offer obligation (*i.e.*, outside of a Waiver Denial Period).

While the ISO will not require that a unit perform to its Dispatch Instruction within the Tolerance Band to earn Bid Cost Recovery or payment of Minimum Load Cost Compensation during a Waiver Denial Period, the ISO wants to make clear that it will apply UDP to Energy provided outside of the Tolerance Band during a Waiver Denial Period. This is completely consistent with the Commission's direction in the A-54 Order. The Commission did not allow the ISO to condition Bid Cost Recovery or payment of Minimum Load Cost Compensation, noting that "[t]his language is inconsistent with the proposal for Uninstructed Deviation Penalties which are assessed only against energy generated outside of the Tolerance Band." A-54 Order at P 107. In other words, the Commission's order sets forth that the application of UDP (as governed by the Tolerance Band) is sufficient to ensure compliance with Dispatch Instructions without also putting Minimum Load Cost Compensation and Bid Cost Recovery at risk due to non-compliance with a Dispatch Instruction.

**B. Defining Constrained Output Generation**

In Amendment No. 54, the ISO proposed that certain "inflexible" or "lumpy" generating units could set the real-time price if any portion of their output was needed to serve load. *See* Transmittal Letter for Amendment No. 54 at 22-24. Such "lumpy" generating units would not set the price if they were not needed to serve load but were operating due to a run-time constraint, but would recover their bid costs. The Commission approved this treatment. See A-54 Order at P 75. While Amendment No. 54 set forth how lumpy generating units would be treated, it did not expressly define what lumpy generating units are.

To clarify this issue, the ISO proposes to adopt in the ISO Tariff the Commission's own description of lumpy or Constrained Output Resources from the A-54 Order:

> Constrained Output Resources are generating resources that cannot easily or economically change load levels and are typically restricted to generating at their full capacity for their unit-specific minimum run time.

A-54 Order at P 70. Accordingly, the ISO proposes a new definition of "Constrained Output Generation" which adopts the Commission's description of such resources.

### C. Implementation of the Uninstructed Deviation Penalty (UDP) to Dynamically Scheduled System Resources

In the A-54 Compliance Filing, the ISO proposed to apply UDP to dynamically scheduled System Resources. *See* Amendment No. 54, proposed Third Revised Sheet No. 247A, Section 11.2.4.1.2 (b). The ISO's rationale for applying UDP is that dynamically scheduled System Resources are generating units outside the ISO Control Area that the ISO "sees" effectively as generating units located inside the ISO Control Area because the ISO receives real-time signals from those resources indicating their operating levels.[2] In contrast, the ISO sees other non-dynamically scheduled System Resources merely as static, hourly interchange schedules at points of interconnection with the ISO Control Area. The ISO did not propose to apply the Tolerance Band to "static" System Resources (*i.e.*, System Resources dispatched prior to the hour for the entire hour), because UDP would apply to these resources only if they declined a pre-dispatch instruction issued at least forty minutes prior to the operating hour. To attempt to clarify the distinction between how UDP would apply to static and dynamically scheduled System Resources, the ISO submitted a sentence in its A-54 Compliance Filing that provides that "The Tolerance Band shall not apply to System Resources." *See* A-54 Compliance Filing, definition of Tolerance Band, Substitute Original Sheet 352A. The ISO is concerned, however, that, read together, these two statements could be construed to indicate that UDP are applied to dynamically scheduled System Resources, but no Tolerance Band (*i.e.*, a Tolerance Band of zero MW) is applied to temper the application of UDP. This is not the ISO's intent.

To clarify the issue, the ISO proposes to amend the ISO Tariff to apply UDP to imports from dynamically scheduled System Resources the same way UDP apply to Generating Units located inside the ISO Control Area, namely, using a Tolerance Band that is the greater of 5 MW or 3 percent of a maximum output value that would be expressly indicated in the Master File for that particular dynamically scheduled System Resource. This maximum output value should represent the maximum amount of Energy that could be transferred from this dynamically scheduled System Resource. This amount could be the full output of the resource or, in the case of a joint ownership unit, the entitlement share of the party within the ISO Control Area. This is consistent with the way the ISO "sees" dynamically scheduled System Resources – as dynamic generating units within its own Control Area. The ISO proposes to modify the definition of Tolerance Band to implement this

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[2] The ISO may not "see" individual resources *per se*, but, by receiving the dynamically scheduled interchange, knows the real-time effect of this resource on the ISO's Control Area control requirements. This dynamic interchange level may change in real-time based on the independent action of the Scheduling Coordinator, which is why UDP should apply to dynamically scheduled System Resources. In contrast, the ISO only "sees" non-dynamic System Resources as static interchange schedules that are deemed delivered.

change. The ISO does not propose to apply UDP to dynamically scheduled exports from the ISO Control Area. Because such exports come from individual generating units within the ISO Control Area, the ISO already applies UDP to the individual generating unit. Applying UDP also to the dynamic schedule would cause the UDP to be applied twice.

The ISO is developing a comprehensive proposal to specify the criteria and rules for dynamically scheduled System Resources, and expects to file tariff changes supporting that proposal by May 1, 2004.[3] The instant changes are only intended to resolve the immediate issue of how to establish the Tolerance Band for dynamically scheduled System Resources when Phase 1B is implemented, and the ISO may propose a different basis for the Tolerance Band for such resources when it files its comprehensive proposal for the treatment of dynamic scheduling.

### D. Consistent Specification of Minimum Load (Pmin) and Start-Up Lead Time

The ISO uses a generating unit's minimum load (Pmin) operating level and start-up lead time (the time it takes for the unit to connect to the grid once instructed to do so) in the Real-Time Market Applications (RTMA) software implemented in Phase 1-B. These values can be specified both in the Master File data, used for market transactions, for that unit as well as in the unit's RMR Contract. Because the data for the same unit characteristic can come from two different sources, it may not always agree. Having one value for RMR purposes and a different value for the same unit characteristic for market purposes needlessly complicates settling RMR and market charges for the same unit.

The ISO faced a similar problem with the unit's ramp rate, which could be specified differently in the RMR Contract than the ramp rate function submitted in the market. The ISO resolved this conflict in the original Amendment No. 54 Phase 1-B filing by directing that the Generating Unit owner could either amend the RMR Contract to use the ramp rate submitted to the market for settling both the Energy Dispatched in the market and the Energy Dispatched under the RMR Contract, or the Generating Unit owner could elect to use the ramp rate specified in the RMR Contract for both settling both market and RMR transactions. *See* Transmittal Letter for Amendment No. 54 at 11-12, Proposed Original Sheet No. 565A. The

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[3] In its Answer to Protests filed on February 17, 2004, in Docket No. ER04-389, the ISO stated that it intended to circulate for stakeholder review and comments a generic dynamic scheduling policy by March 1, 2004, and that it would undertake its best efforts to make a Section 205 Tariff filing to propose the generic policy by April 1, 2004. On March 1, 2004 the ISO circulated its white paper proposal for a dynamic scheduling policy. To allow for a meaningful stakeholder process on this proposal, the ISO has pushed back the target date for the Section 205 filing to May 1, 2004.

Commission approved this treatment in the A-54 Order at paragraphs 19 to 23.

The ISO proposes to extend this "either or" treatment to the minimum load and start-up lead times. The RMR Unit owner will be afforded an opportunity to revise its RMR Contract to specify that either the values specified in the Master File will be used for both RMR and market settlements, or to indicate that the values specified in Schedule A to the RMR Contract will be used for both RMR and market settlements. In either case, the ISO will have only one value for each of these unit characteristics to use in settling both RMR and market transactions. This will reduce the likelihood of errors and therefore will also reduce the likelihood of disputes. Furthermore, there is no reason why these unit characteristics would be different depending on whether the unit was operating in the market or providing service under the RMR Contract.

**E. List of Proposed Tariff Modifications**

Tariff Section 5.11.6.1.2 has been modified to indicate that the minimum load level shall be the value specified in Schedule A to the applicable RMR Contract. The ISO will allow RMR Unit owners to amend their RMR Contract Schedule A minimum load value to indicate that the value for this characteristic in the ISO Master File used for market transactions shall be used to settle RMR transactions as well. If the RMR Unit owner does not so modify the RMR Contract Schedule A, the value specified in RMR Contract Schedule A will be used to settle both RMR and market transactions.

Section 11.2.4.1.1.1 has been modified to indicate that the Tolerance Band will be applied outside of a Waiver Denial Period as a condition of bid cost recovery. In addition, a grammatical error in which the words "did not" were misplaced has been corrected, and the ISO has corrected the undefined term "Curtailable Load" to the proper defined term "Curtailable Demand". The third sentence of this Section has also been modified to clarify how the Tolerance Band will be applied.

Section 11.2.4.1.2 (o) has been modified to (1) indicate how UDP will be applied to dynamically scheduled System Resources in an out-of-market ("OOM") transaction, and (2) limit the application of UDP to a non-dynamically scheduled System Resource participating in an OOM transaction to under-delivery of the agreed-upon Energy. This was done to make the application of UDP for a non-dynamically scheduled System Resource in an OOM transaction consistent with how UDP is applied to such a System Resource in any other pre-scheduled market transaction (i.e., UDP is only applied when the System Resource declines the transaction if the transaction is requested at least forty (40) minutes in advance of the operating hour).

The definition of Tolerance Band in Appendix A, Master Definition Supplement, has been modified to set forth that (1) the Tolerance Band

applies to imports from dynamically scheduled System Resources based on the greater of 5 MW or three percent of the resource's maximum output,[4] or, in the case of a jointly-owned unit, the relevant ownership share (i.e., Pmax) registered in the Master File, and (2) the Tolerance Band does not apply to non-dynamically scheduled System Resources.

Section 6.6 of the Schedules and Bid Protocol has been modified to indicate that the start-up lead time shall be the value specified in Schedule A to the applicable RMR Contract. The ISO will allow RMR Unit owners to amend their RMR Contract Schedule A start-up lead time value to indicate that the value for this characteristic in the ISO Master File used for market transactions shall be used to settle RMR transactions as well. If the RMR Unit owner does not so modify the RMR Contract Schedule A, the value specified in RMR Contract Schedule A will be used to settle both RMR and market transactions.

Section 2.6.1 of Settlements and Billing Protocol has been modified to clarify that (1) the Tolerance Band does not apply to condition Bid Cost Recovery or Minimum Load Cost Compensation, but does apply for the application of UDP, during a Waiver Denial Period, and (2) the Tolerance Band does not apply to non-dynamically scheduled System Resources.

## IV. EFFECTIVE DATE

The ISO respectfully requests that the provisions of Amendment No. 58 be put into effect on the later of 60 days from the date of this filing (May 1, 2004) or when the Phase 1-B modifications are put into service. The ISO will provide written notice to the market and to the Commission at least ten (10) days in advance of the implementation of the Phase 1-B modifications. The ISO is working extensively with Market Participants to test the Phase 1-B modifications and is currently is in constant communication with them. If the Phase 1-B modifications are not put into effect on May 1, 2004, the next possible implementation date will be June 1, 2004, to ensure that that modifications are put into service at the beginning of a month so as to not be implemented in the middle of an invoicing cycle.

[4] The Tolerance Band is applied based on the delivery of Energy in an interval within an hour, so the effective Tolerance Band in each interval is a quantity of Energy that is the greater of 5 MW of 3% of Pmax divided by the number of intervals in the hour.

## V. 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:

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## VI. SERVICE

The ISO has served copies of this transmittal letter, and all attachments, on the California Public Utilities Commission, the California Energy Commission, the California Electricity Oversight Board, on all parties with effective Scheduling Coordinator Service Agreements under the ISO Tariff, and on all parties in the proceeding in Docket No. ER03-1046 (concerning Amendment No. 54). In addition, the ISO is posting this transmittal letter and all attachments on the ISO Home Page.

## VII. ATTACHMENTS

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

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| Attachment A | Revised ISO Tariff sheets |
| Attachment B | Black-lined ISO Tariff provisions |
| Attachment C | Notice of this filing, suitable for publication in the Federal Register (also provided in electronic format) |

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. Please feel free to contact the undersigned if you have any questions concerning this matter.

Respectfully submitted,

Anthony J. Ivancovich BRM

Charles F. Robinson
Anthony J. Ivancovich
Counsel for The California Independent
System Operator Corporation

Enclosures

# ATTACHMENT A

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 Schedule A to the resource's Reliability Must-Run Contract if the resource is subject to a Reliability Must-Run Contract, or, if the resource is not subject to a Reliability Must-Run Contract or has so directed in Schedule A to its Reliability Must-Run Contract, the ISO Master File 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

**11.2.4.1 Net Settlements for Uninstructed Imbalance Energy.**

Uninstructed Imbalance Energy attributable to each Demand Take-Out Point, Generating Unit, System Unit or System Resource for which a Scheduling Coordinator has a Final Hour-Ahead Schedule or Metered Quantity, for each Settlement Interval, shall be deemed to be sold or purchased, as the case may be, by the ISO and charges or payments for Uninstructed Imbalance Energy shall be settled by debiting or crediting, as the case may be, the Scheduling Coordinator with an amount for each Settlement Interval in accordance with Section 2.5.23.2.1. Positive or negative Uninstructed Imbalance Energy as described in SABP Appendix D, Section 2.1.1 shall be paid or charged the Resource-Specific Settlement Interval Ex Post Price or the Zonal Settlement Interval Ex Post Price, as the case may be.

**11.2.4.1.1 Settlement for Instructed Imbalance Energy**

Instructed Imbalance Energy attributable to each Scheduling Coordinator in each Settlement Interval shall be deemed to be sold or purchased, as the case may be, by the ISO and charges or payments for Instructed Imbalance Energy shall be settled by debiting or crediting, as the case may be, the Scheduling Coordinator with an amount for each Settlement Interval in accordance with Section 2.5.23.

**11.2.4.1.1.1 Bid Cost Recovery for Generating Units, System Units and Curtailable Load.**

The ISO shall determine, for each Trading Day, for each Generating Unit, System Unit and Curtailable Demand, Dispatched in the Real-Time Market pursuant to Section 2.5.22, whether there exists a surplus or deficit in that resource's recovery of its Energy Bid costs, that are less than or equal to the Maximum Bid Level, through Instructed Imbalance Energy credits, as set forth in Section 11.2.4.1.1. This determination of market revenue surplus or deficit shall be calculated as the difference between: 1) the Instructed Imbalance Energy payment as based on the

relevant Resource-Specific Settlement Interval Ex Post Price and 2) the resource's Energy Bid cost for each Settlement Interval. Bid cost recovery payment will be based on Settlement Intervals in which the resource: 1) did not recover its Energy Bid costs, and 2) generated or consumed an amount of Energy within its Tolerance Band of an amount of Energy equal to its Final Hour-Ahead Schedule plus any Dispatch Instructions. During a Waiver Denial Period, the Tolerance Band requirement will not be applied as a condition for bid cost recovery or payment of Minimum Load Costs to Must-Offer Generators that produce a quantity of Energy above minimum load due to an ISO Dispatch Instruction. These Settlement Intervals will be netted against all Settlement Intervals in which the Instructed Imbalance Energy payments to the resource exceeded its Energy Bid costs. The resulting total bid cost recovery payment is then divided equally amongst the same Settlement Intervals to yield a per-Settlement Interval bid cost recovery payment. For non-must offer resources, this per-Settlement Interval bid cost recovery payment shall then be paid to each Settlement Interval in which the resource generated or consumed an amount of Energy equal to its schedule, any Dispatch Instructions and its applicable Tolerance Band. For must-offer resources, this per-Settlement Interval bid cost recovery payment shall be made in each interval the unit was instructed by the ISO to operate above its minimum load, or returning to its minimum load from a prior ISO instruction. Payments for un-recovered bid costs for portions of Energy associated with bids above the Maximum Bid Level will not be netted with other surpluses or deficits and are subject to recall if the such bids above have not been adequately justified pursuant to Section 28.1.2. Energy Bid cost recovery associated with Residual Energy as provided for in Section 2.5.22.6.4 shall be based on the Energy Bids for the previous or next operating hour, whichever the case may be, upon which the Dispatch Instruction was based.

l) The Uninstructed Deviation Penalty for positive Uninstructed Imbalance Energy will be the amount of the Uninstructed Imbalance Energy in excess of the Tolerance Band multiplied by a price equal to 100% of the corresponding Zonal Settlement Interval Ex Post Price. The net effect of the Uninstructed Deviation Penalty and the Settlement for positive Uninstructed Imbalance Energy beyond the Tolerance Band will be that the ISO will not pay for such Energy;

m) The Uninstructed Deviation Penalty for negative Uninstructed Imbalance Energy will be the amount of the Uninstructed Imbalance Energy in excess of the Tolerance Band multiplied by a price equal to 50% of the corresponding Zonal Settlement Interval Ex Post Price;

n) The Uninstructed Deviation Penalty will not apply to deviations from Energy delivered as part of a scheduled test so long as the test has been scheduled by the Scheduling Coordinator with the ISO or the ISO has initiated the test for the purposes of validating unit performance;

o) The Uninstructed Deviation Penalty shall apply to any excess Energy delivered from or any shortfall of Energy not delivered from an Out of Market (OOM) transaction involving a Generating Unit or a System Unit once the ISO and the supplier have agreed upon the time of, duration of, and the amount of Energy to be delivered in the OOM transaction. The Uninstructed Deviation Penalty shall apply to firm OOM transactions with dynamically scheduled System Resources to the extent the agreed-to Energy is not delivered or over-delivered, and to non-dynamically scheduled System Resources to the extent the agreed-to Energy is not delivered if that over- or under-delivery was due to action taken by or not taken by the System Resource and not the result of action taken by a control area operator due to a curtailment of firm transmission capability or to prevent curtailment of native firm load occurring subsequent to the OOM transaction;

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|---|---|
| **Take-Out Point** | The metering points at which a Scheduling Coordinator Metered Entity or ISO Metered Entity takes delivery of Energy. |
| **Tax Exempt Debt** | Municipal Tax Exempt Debt or Local Furnishing Bonds. |
| **Tax Exempt Participating TO** | A Participating TO that is the beneficiary of outstanding Tax-Exempt Debt issued to finance any electric facilities, or rights associated therewith, which are part of an integrated system including transmission facilities the Operational Control of which is transferred to the ISO pursuant to the TCA. |
| **TCA (Transmission Control Agreement)** | The agreement between the ISO and Participating TOs establishing the terms and conditions under which TOs will become Participating TOs and how the ISO and each Participating TO will discharge their respective duties and responsibilities, as may be modified from time to time. |
| **Tie Point Meter** | A revenue meter, which is capable of providing Settlement Quality Meter Data, at a Scheduling Point or at a boundary between UDCs within the ISO Controlled Grid. |
| **TO (Transmission Owner)** | An entity owning transmission facilities or having firm contractual rights to use transmission facilities. |
| **TO Tariff** | A tariff setting out a Participating TO's rates and charges for transmission access to the ISO Controlled Grid and whose other terms and conditions are the same as those contained in the document referred to as the Transmission Owners Tariff approved by FERC as it may be amended from time to time. |
| **Tolerance Band** | The tolerance band expressed in terms of Energy (MWh) for the performance requirement for Generating Units, System Units and imports from dynamically scheduled System Resources for each Settlement Interval will equal the greater of |

the absolute value of: 1) 5 MW divided by number of Settlement Intervals per Settlement Period or 2) three percent (3%) of the relevant Generating Unit's, dynamically scheduled System Resource's or System Unit's maximum output (Pmax), as registered in the Master File, divided by number of Settlement Intervals per Settlement Period.

The tolerance band expressed in terms of Energy (MWh) for the performance requirement for Participating Loads for each Settlement Interval will equal the greater of the absolute value of: 1) 5 MW divided by number of Settlement Intervals per Settlement Period or 2) three percent (3%) of the applicable Final Hour-Ahead Schedule or ISO Dispatch amount divided by number of Settlement Intervals per Settlement Period.

The Tolerance Band shall not be applied to non-dynamically scheduled System Resources.

**Trading Day**

The twenty-four hour period beginning at the start of the hour ending 0100 and ending at the end of the hour ending 2400 daily, except where there is a change to and from daylight savings time.

Dispatch Instructions for the shorter period of the balance of the Trading Day or duration of reported Outage.

- For all ISO Dispatch Instructions of Reliability Must Run resources the operational ramp rate will be the ramp rate declared in the Reliability Must Run Contract Schedule A.

**SBP 6.6 Format and Validation of Startup and Shutdown Times**

For a Generating Unit, the submitted startup time expressed in minutes (min) as a function of down time expressed in minutes (min) must be a staircase function with up to 10 segments defined by a set of 1 to 10 down time and startup time pairs. The startup time is the time required to start the resource if it is offline longer than the corresponding down time. The last segment will represent the time to start the unit from a cold start and will extend to infinity. The submitted startup time function shall be validated as follows:

- The first down time must be 0 min.
- The down time entries must match exactly (in number, sequence, and value) the corresponding down time breakpoints of the maximum startup time function, as registered in the Master File for the relevant resource.
- The startup time for each segment must not exceed the startup time of the corresponding segment of the maximum startup time function, as registered in the Master File for the relevant resource.
- The startup time function must be strictly monotonically increasing, i.e., the startup time must increase as down time increases.
- The start-up lead time submitted shall be the start-up lead time declared in Schedule A to the resource's Reliability Must-Run Contract.

For Curtailable Demand, a single shutdown time in minutes is the time required for the resource to shut down after receiving a Dispatch Instruction.

**SBP 6.7 Format and Validation of Startup and Shutdown Costs**

For a Generating Unit, the submitted startup cost expressed in dollars ($) as a function of down time expressed in minutes (min) must be a staircase function with up to 10 segments defined by a set of 1 to 10 down time and startup cost pairs. The startup cost is the cost incurred to start the resource if it is offline longer than the corresponding down time. The last segment will represent the cost to start the resource from cold startup and will extend to infinity. The submitted startup cost function shall be validated as follows:

- The first down time must be 0 min.
- The down time entries must match exactly (in number, sequence, and value) the corresponding down time breakpoints of the cost-based startup cost function, as registered in the Master File for the relevant resource.

A resource shall have met its performance requirement if its $UIE_{i,h,o}$ is within its relevant Tolerance Band. A resource meeting its performance requirement in Settlement Interval o will have a $PERF\_STAT_{i,h,o} = 1$. A resource that has not met its performance requirement in Settlement Interval *o* will have a $PERF\_STAT_{i,h,o} = 0$.

Must-offer resources that produce a quantity of Energy above Minimum Load due to an ISO Dispatch Instruction during a Waiver Denial Period are not subject to the Tolerance Band requirement for purposes of receiving either Minimum Load Cost Compensation, as defined in section 5.11.6.1.1, or Bid Cost Recovery, as set forth in section 11.2.4.1.1.1. Accordingly, the $PERF\_STAT_{i,h,o}$ for eligible must-offer resources, as defined in section 5.11.6.1.1, shall be set to 1, irrespective of deviations outside of the Tolerance Band, for the purpose of determining eligibility for Bid Cost Recovery and Minimum Load Cost Compensation during a Waiver Denial Period. The Tolerance Band shall be used to apply UDP during a Waiver Denial Period.

Non-dynamically scheduled System Resources do not have a Tolerance Band. Non- Participating Load Agreement (PLA) load resources are not subject to the performance requirement.

### D 2.6.2 Unrecovered Costs Neutrality Allocation

For each Settlement Interval *o*, the total Unrecovered Costs for Trade Day *d* shall be allocated pro-rata to each Scheduling Coordinator *g* based on its Metered Demand, calculated as follows:

$URC\_ALLOC_{g,h,o} = M_{g,h,o} * Per\ Unit\ Price$

where,

$M_{g,h,o}$ = the Metered Demand in the ISO control area for Scheduling Coordinator *g* in Settlement Interval *o* for hour *h*;

$$Per\ Unit\ Price = \frac{-1 * \sum_{1}^{i} COST\_RECOVERY_{i,h,o}}{\sum_{1}^{g} M_{g,h,o}}$$

### D 2.6.3 Calculation of Unrecovered Cost Payment for System Resources

As set forward in Section 11.2.4.1.1.2, System Resources that are dispatched and deliver hourly-predispatched Instructed Imbalance Energy will be paid the higher of the simple average of the twelve Dispatch Interval Ex Post prices for the hour or their Energy bid costs for the quantity of Energy delivered in each hour. The determination of the hourly uplift payment shall be determined as follows: (1) Market deficits or surpluses are calculated as the difference between the resource-specific price and the resource's (hourly) bid cost; (2) An hourly uplift payment will be determined for any amount less than zero;

(3) This hourly amount will then be divided evenly by the relevant number of *n*-Settlement Intervals and paid this portion for each Settlement Interval of the hour.

# ATTACHMENT B

### 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 Schedule A to the resource's Reliability Must-Run Contract if the resource is subject to a Reliability Must-Run Contract, or, if the resource is not subject to a Reliability Must-Run Contract or has so directed in Schedule A to its Reliability Must-Run Contract, 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.

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### 11.2.4.1.1.1 Bid Cost Recovery for Generating Units, System Units and Curtailable Load.

The ISO shall determine, for each Trading Day, for each Generating Unit, System Unit and Curtailable Demand~~Load~~, Dispatched in the Real-Time Market pursuant to Section 2.5.22, whether there exists a surplus or deficit in that resource's recovery of its Energy Bid costs, that are less than or equal to the Maximum Bid Level, through Instructed Imbalance Energy credits, as set forth in Section 11.2.4.1.1. This determination of market revenue surplus or deficit shall be calculated as the difference between: 1) the Instructed Imbalance Energy payment as based on the relevant Resource-Specific Settlement Interval Ex Post Price and 2) the resource's Energy Bid cost for each Settlement Interval. Bid cost recovery payment will be based on Settlement Intervals in which the resource ~~did not~~: 1) did not recover its Energy Bid costs, and 2) generated or consumed an amount of Energy within its Tolerance Band of an amount of Energy equal to its Final Hour-Ahead S~~s~~chedule plus~~,~~ any Dispatch Instructions ~~and its applicable Tolerance Band~~. During a Waiver Denial Period, the~~The~~ Tolerance Band requirement will not be applied as a condition for bid cost recovery or payment of Minimum Load Costs ~~apply~~ to Must-Offer Generators that produce a quantity of Energy above minimum load due to an ISO Dispatch Instruction. These Settlement Intervals will be netted against all Settlement Intervals in which the Instructed Imbalance Energy payments to the resource exceeded its Energy Bid costs. The resulting total bid cost recovery payment is then divided equally amongst the same Settlement Intervals to yield a per-Settlement Interval bid cost recovery payment. For non-must offer resources, this per-Settlement Interval bid cost recovery payment shall then be paid to each Settlement Interval in which the resource generated or consumed an amount of Energy equal to its schedule, any Dispatch Instructions and its applicable Tolerance Band. For must-offer resources, this per-Settlement Interval bid cost recovery payment shall be made in each interval the unit was instructed by the ISO to operate above its minimum load, or returning to its minimum load from a prior ISO instruction. Payments for un-recovered bid costs for portions of Energy associated with bids above the Maximum Bid Level will not be netted with other surpluses or deficits and are subject to recall if the such bids above have not been adequately justified pursuant to Section 28.1.2. Energy Bid cost recovery associated with Residual Energy as provided for in Section 2.5.22.6.4 shall be based on the Energy Bids for the previous or next operating hour, whichever the case may be, upon which the Dispatch Instruction was based.

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**11.2.4.1.2 (o)**:

The Uninstructed Deviation Penalty shall apply to any excess Energy delivered from or any shortfall of Energy not delivered from an Out of Market (OOM) transaction involving a Generating Unit or a System Unit once the ISO and the supplier have agreed upon the time of, duration of, and the amount of Energy to be delivered in the OOM transaction. The Uninstructed Deviation Penalty shall apply to firm OOM transactions with dynamically scheduled System Resources to the extent the agreed-to Energy is not delivered or over-delivered, and to non-dynamically scheduled System Resources to the extent ~~the System Resource fails to deliver~~ the agreed-to Energy is not delivered ~~or over-delivers the agreed-to Energy~~ if that over- or under-delivery was due to action taken by or not taken by the System Resource and not the result of action taken by a control area operator due to a curtailment of firm transmission capability or to prevent curtailment of native firm load occurring subsequent to the OOM transaction~~issuing the Pre-Dispatch Instruction~~;

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| | |
|---|---|
| **Tolerance Band** | The tolerance band expressed in terms of Energy (MWh) for the performance requirement for Generating Units, ~~and~~ System Units and imports from dynamically scheduled System Resources for each Settlement Interval will equal the greater of the absolute value of: 1) 5 MW divided by number of Settlement Intervals per Settlement Period or 2) three percent (3%) of the relevant Generating Unit's, dynamically scheduled System Resource's or System Unit's maximum output (Pmax), as registered in the Master File, divided by number of Settlement Intervals per Settlement Period.<br>The tolerance band expressed in terms of Energy (MWh) for the performance requirement for Participating Loads for each Settlement Interval will equal the greater of the absolute value of: 1) 5 MW divided by number of Settlement Intervals per Settlement Period or 2) three percent (3%) of the applicable Final Hour-Ahead Schedule or ISO Dispatch amount divided by number of Settlement Intervals per Settlement Period.<br>The Tolerance Band shall not be applied to non-dynamically scheduled System Resources |

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**SBP 6.6 Format and Validation of Startup and Shutdown Times**

For a Generating Unit, the submitted startup time expressed in minutes (min) as a function of down time expressed in minutes (min) must be a staircase function with up to 10 segments defined by a set of 1 to 10 down time and startup time pairs. The startup time is the time required to start the resource if it is offline longer than the corresponding down time. The last segment will represent the time to start the unit from a cold start and will extend to infinity. The submitted startup time function shall be validated as follows:

- The first down time must be 0 min.
- The down time entries must match exactly (in number, sequence, and value) the corresponding down time breakpoints of the maximum startup time function, as registered in the Master File for the relevant resource.

- The startup time for each segment must not exceed the startup time of the corresponding segment of the maximum startup time function, as registered in the Master File for the relevant resource.
- The startup time function must be strictly monotonically increasing, i.e., the startup time must increase as down time increases.
- The start-up lead time submitted shall be the start-up lead time declared in Schedule A to the resource's Reliability Must-Run Contract.

For Curtailable Demand, a single shutdown time in minutes is the time required for the resource to shut down after receiving a Dispatch Instruction.

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**SABP App. D 2.6.1 Tolerance Band and Performance Check**

The ISO shall determine the Tolerance Band for each Settlement Interval *o* for PGA resources based on the data from the Master File as follows:

$$TOLERANCE\_BAND_{i,h,o} = \pm \max\left(FIX\_LIM\ , TOL\_PERCENT\ * P\max_i\right) / 6$$

where,
*FIX_LIM* is a fixed MW limit and is initially equal to 5 MW.
*TOL_PERCENT* is a fixed percentage and is initially equal to 3%.*Pmax*$_i$ is the maximum operating capacity in MW of resource *i* specified in the Master File.

The ISO shall determine the Tolerance Band for each Settlement Interval o for PLA resources as follows:

$$TOLERANCE\_BAND_{i,h,o} = \pm\ max\left(FIX\_LIM,\ TOL\_PERCENT * HAfin_{i,h}\right) / 6$$

where $HAfin_{i,h}$ *is the* Final Hour Ahead Energy Schedule.

Resources must operate within their relevant Tolerance Band in order to receive any above-Ex Post price payments. The ISO shall determine the performance status of the resource for each Settlement Interval o. A resource shall have met its performance requirement if its $UIE_{i,h,o}$ is within its relevant Tolerance Band. A resource meeting its performance requirement in Settlement Interval o will have a $PERF\_STAT_{i,h,o} = 1$. A resource that has not met its performance requirement in Settlement Interval *o* will have a $PERF\_STAT_{i,h,o} = 0$.

Must-offer resources that produce a quantity of Energy above Minimum Load due to an ISO Dispatch Instruction during a Waiver Denial Period are not subject to the Tolerance Band requirement for purposes of receiving either Minimum Load Cost Compensation, as defined in section 5.11.6.1.1, or Bid Cost Recovery, as set forth in section 11.2.4.1.1.1. Accordingly, the $PERF\_STAT_{i,h,o}$ for eligible must-offer resources, as defined in section 5.11.6.1.1, shall be set to 1, irrespective of deviations outside of the Tolerance Band, for the purpose of determining eligibility for Bid Cost Recovery and Minimum Load Cost

Compensation during a Waiver Denial Period. The Tolerance Band shall be used to apply UDP during a Waiver Denial Period.

Non-dynamically scheduled System Resources do not have a Tolerance Band. Non- Participating Load Agreement (PLA) load resources are not subject to the performance requirement.

# ATTACHMENT C

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

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

| | | |
|---|---|---|
| **California Independent System Operator Corporation** | ) | **Docket No. ER04 - ____-000** |

**Notice of Filing**

[ ]

Take notice that the California Independent System Operator Corporation ("ISO") tendered for filing a revision to the ISO Tariff, Amendment No. 58, for acceptance by the Commission. The ISO states that the purpose of Amendment No. 58 is to (1) clarify the application of the Tolerance Band during Waiver Denial Periods; (2) define Constrained Output Generation; (3) clarify the implementation of Uninstructed Deviation Penalties to dynamically scheduled System Resources; and (4) provide for consistent treatment of unit data for Reliability Must-Run and market transactions.

The ISO states that this filing has been served on the Public Utilities Commission, the California Energy Commission, the California Electricity Oversight Board, parties in Docket No. ER03-1046, and parties with effective Scheduling Coordinator Agreements under the ISO Tariff.

The ISO is requesting the amendment to be made effective on the later of May 1, 2004 or when the Phase 1-B modifications are put into service.

Any person desiring to intervene or to protest this filing should file 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 CFR 385.211 and 385.214). 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 proceeding. 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 the Commission or may be viewed on the Commission's web site at http://www.ferc.gov, using the eLibrary (FERRIS) link. Enter the docket number excluding the last three digits in the docket number field to access the document. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll-free at (866)208-

3676, or for TTY, contact (202)502-8659. 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: _____