

March 15, 2005

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

**Re: Comprehensive Design Proposal for Inter-Scheduling Coordinator Trades  
Under the California Independent System Operator Corporation's Market  
Redesign and Technology Upgrade, Docket No. ER05-\_\_\_\_-000**

**Public Utilities Providing Service in California  
Under Sellers' Choice Contracts, Docket No. EL04-108-000**

**California Independent System Operator Corporation,  
Docket No. ER02-1656-\_\_\_\_\_**

Dear Secretary Salas:

Pursuant to Section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, and Section 35.13 of the Commission's regulations, 18 C.F.R. § 35.13, the California Independent System Operator Corporation ("CAISO")<sup>1</sup> hereby submits for filing an original and five copies of its Comprehensive Design Proposal for Inter-Scheduling Coordinator Trades ("Proposal"). The Proposal explains how the CAISO intends to offer settlement of Inter-Scheduling Coordinator Trades ("Inter-SC Trades") when it implements its Market Redesign and Technology Upgrade project ("MRTU").

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.

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<sup>1</sup> Capitalized terms not otherwise defined herein are defined in the Master Definitions Supplement, Appendix A to the CAISO Tariff, as filed August 15, 1997, and subsequently revised.

This filing has two components: this Transmittal Letter and the Proposal itself, which is Attachment A to this Transmittal Letter. The Proposal represents a complete, detailed description of the services that the CAISO will provide with respect to the settlement of Inter-SC Trades of energy under the new market design and includes a description of Existing Zone Generation Trading Hubs (“EZ Gen Hubs”) that the CAISO has developed through a stakeholder process as successor contract delivery points to today’s existing congestion zones under a locational marginal pricing (“LMP”) based market design. In brief summary, the CAISO will provide Inter-SC Trades at individual generation nodes and aggregated pricing points (trading hubs and load aggregation points). However, Inter-SC Trades at individual generator nodes will be subject to a physical validation requirement as described in Attachment A. The CAISO is not filing proposed tariff language for this Proposal now because such tariff language will need to be developed as part of the comprehensive MRTU tariff, which is not expected to be filed with the Commission until the end of this year. Nonetheless, the Commission should view this Proposal as a final product, which can be converted into Tariff language at a later date without substantive modification or expansion of detail.

This Proposal provides a reasonable and flexible settlement service for bilateral energy contracts under an LMP-based market design and does so in a manner that should facilitate a resolution of concerns that the Commission has identified regarding the compatibility of existing seller’s choice contracts with the CAISO’s proposed market design.<sup>2</sup> The CAISO has committed to resolve those concerns before proceeding with implementation of LMP, a central feature of MRTU.<sup>3</sup>

Commission approval of the Proposal, including both the description of Inter-SC Trade settlement services and the description of EZ Gen Hubs, without modification, will facilitate resolution of the issues raised under LMP by the CDWR contracts. That approval, together with agreements by the California Department of Water Resources (“CDWR”) and its counter-parties to certain seller’s choice contracts listed on Attachment B to the Commission’s June 17 Order in Docket No. EL04-108-000 (hereinafter, “the CDWR contracts”) to use the Inter-SC Trade mechanism in the Proposal for delivery under those contracts once LMP is implemented, will resolve the seller’s choice issues.<sup>4</sup> This, in turn, will permit the CAISO to maintain its current

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<sup>2</sup> See *California Independent System Operator Corporation, Public Utilities Providing Service in California under Sellers' Choice Contracts*, 107 FERC ¶ 61,274 at PP 165-66 (2004) (“June 17 Order”). In the June 17 Order, the Commission instituted a Section 206 proceeding to investigate the feasibility of both upholding existing seller’s choice contracts without modification and implementing the CAISO’s proposed market redesign. *Id.*

<sup>3</sup> See *California Independent System Operator Corporation*, 105 FERC ¶ 61,140 at P 55 (2003) (“October 28 Order”) (discussing the seller’s choice issue, the Commission stated that “[t]he CAISO states that its Governing Board recognizes the legitimacy of this transitional issue, and has directed CAISO Management to continue to work with affected parties towards resolution of this issue prior to implementing LMP”); see also June 17 Order at P 165.

<sup>4</sup> Early in the seller’s choice proceeding instituted by the June 17 Order, a data acquisition committee established by the Presiding Administrative Law Judge identified over 200 other contracts that might be seller’s choice contracts and might be subject to the proceeding. As of the date of this filing, motions have been filed to dismiss the majority of those additional contracts from the seller’s choice proceeding, and the parties to most of the others have indicated in status reports filed with the Presiding Administrative Law Judge on March 4, 2005, that they do not consider their contracts incompatible with the CAISO’s proposed market redesign. The CAISO

schedule for development of the software and systems required to implement its market redesign by the proposed February 2007 implementation date. Resolution of the seller's choice issues and Commission approval of an acceptable local market power mitigation ("LMPM") plan are critical elements affecting the CAISO Governing Board's decision to implement LMP. Accordingly, we request that the Commission approve the Proposal by mid-May.

As of the date of this filing, CDWR and the counter-parties to several of the CDWR contracts have filed motions to dismiss their contracts from the seller's choice proceeding. In some cases, they have determined that a specific contract was not a true seller's choice contract;<sup>5</sup> in others, CDWR has determined that it need not seek relief from the Commission regarding the delivery terms in a contract.<sup>6</sup> In still other cases, CDWR and its counter-parties have reached settlements under which the delivery provisions of certain contracts, which speak in terms of delivery to an existing congestion zone (*e.g.*, SP15), will be interpreted under MRTU to require deliveries to be settled at an EZ Gen Hub price that is based on the prices under LMP at generation nodes within the geographic area encompassed by the existing congestion zone.<sup>7</sup> Finally, with respect to all other CDWR contracts, CDWR and its counter-parties either have reached conditional settlements agreeing to settle their contracts through a combination of settlement of deliveries at hubs, and settlement at individual LMP generator nodes using the Inter-SC Trade settlement services contained in the Proposal filed today, contingent on the Commission's approval of this proposal without modification,<sup>8</sup> or they have indicated to the Chief Administrative Law Judge and the Presiding Administrative Law Judge, in a conference on March 2, 2005, that they expect soon to reach such a contingent settlement.<sup>9</sup> In either event, the parties have negotiated settlements in reliance on the Inter-SC Trade settlement services and EZ

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focuses in this filing letter only on the contracts listed on Attachment B to the Commission's June 17 Order, *i.e.*, those involving CDWR, as it is their potential incompatibility with LMP that was addressed by the Commission and is of primary concern to the CAISO.

<sup>5</sup> See Motion to Dismiss of Shell Wind Energy, et al., Docket No. EL04-108-000 (August 12, 2004); Motion to Dismiss of Wellhead Panoche, et al., Docket No. EL04-108-000 (August 13, 2004); Motion of GWF Energy LLC to Dismiss, Docket No. EL04-108-000 (August 20, 2004); Partial Motion to Dismiss of Colton Power, Docket No. EL04-108-000 (August 20, 2004); Motion to Dismiss and for Clarification of El Paso Merchant, L.P., Docket No. EL04-108-000 (August 31, 2004); Motion to Dismiss of Calpeak Power Midway, LLC, et al., Docket No. EL04-108-000 (September 10, 2004); Joint Motion to Dismiss of Willams Energy Marketing & Trading Company and California Department of Water Resources, Docket No. EL04-108-000 (October 28, 2004).

<sup>6</sup> See Joint Motion to Dismiss Contract Between High Desert Power Project, LLC and California Department of Water Resources, Docket No. EL04-108-000 (February 16, 2005).

<sup>7</sup> See Joint Motion to Dismiss Contract Between PPM Energy, Inc. f/k/a Pacificorp Power Marketing, Inc. and California Department of Water Resources, Docket No. EL04-108-000 (February 18, 2005); California Department of Water Resources' Motion to Defer Procedural Schedule, Docket No. EL04-108-000 (February 28, 2005).

<sup>8</sup> See *id.* for discussion of status of settlement negotiations between CDWR and its remaining counterparties: Sempra Generation f/k/a Sempra Energy Resources, Calpine Energy Services, L.P. and its affiliate, Power Contract Financing, L.L.C., Power Receivable Finance LLC, J. Aron, Morgan Stanley Capital Group and Coral Power, L.L.C.

<sup>9</sup> See Order of Chief Judge Confirming Ruling Deferring Procedural Schedule and Scheduling Further Conference, Docket No. EL04-108-000 (March 3, 2005).

Gen Hubs described by the CAISO in this Proposal. Accordingly, the complex settlements of the remaining CDWR contracts are all contingent on the Commission's approval of the CAISO's Proposal without modification. The CAISO therefore anticipates that the Commission's approval of this Proposal without modification will result in resolution of all issues associated with CDWR contracts under LMP. On the other hand, any modification to the proposed Inter-SC Trade design, including making some of the Proposal's validation and settlement provisions optional rather than mandatory, will likely undo some of the settlement agreements between CDWR and its counter-parties.

Although a main purpose of the Proposal is to facilitate a resolution of the problems surrounding seller's choice contracts under LMP, the proposal also provides an important and useful bilateral settlement service to the rest of the market, which market participants can utilize or not, as they choose. The CAISO conducted an extensive stakeholder process in which it received comments and recommendations from many market participants that are not parties to the seller's choice contracts and a number of significant modifications were made to the Proposal to address stakeholder concerns. The CAISO believes the Proposal should be generally acceptable to market participants.

## **I. SUMMARY OF PROPOSAL AND PURPOSE OF FILING**

Unlike the existing market design in which the CAISO operates only a real-time market for energy and requires balanced schedules for managing inter-zonal congestion in the forward market, the CAISO's new market design includes a forward energy market. Thus, Scheduling Coordinators under the new market design will not be required to submit balanced schedules to the CAISO, but can instead purchase and sell energy in the forward market. Under the existing market design, Inter-SC Trades are necessary to enable market participants to balance their forward energy schedules by trading imbalances among themselves. Under MRTU, this balancing function is no longer required and, accordingly, it is not essential that the CAISO offer Inter-SC Trade settlement services to its market participants in the new market design.<sup>10</sup> However, under the new market design Inter-SC Trades can still provide a delivery mechanism for bilateral contracts, as they do today, and it is for that purpose that the CAISO proposes to offer an Inter-SC Trade settlement service under MRTU.

Under MRTU, Inter-SC Trades can assist in settling bilateral energy contracts in several respects. First, contracting parties can use the Inter-SC Trade as the instrument for effectuating contractual delivery of energy. Second, an Inter-SC Trade provides a counter payment to offset the double energy settlement that occurs from scheduling bilateral contracts in the CAISO's forward energy market. The double energy settlement arises because schedules resulting from bilateral contracts are settled in the CAISO's forward energy market, but the parties also perform a bilateral settlement under the contract outside of the CAISO's markets. Thus, absent a third settlement to counter the CAISO's market settlement, a supplier would be paid twice for its

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<sup>10</sup> In fact, the New York Independent System Operator operates forward and real-time LMP energy markets without offering any bilateral contract settlement services.

delivered power (once in the CAISO's forward energy market and once under the bilateral contract) and similarly, the buyer would be charged twice. The Inter-SC Trade provides this counter settlement, in which the buyer under a bilateral contract receives, and the seller under the contract pays, the LMP at the location selected for the Inter-SC Trade. The third role of Inter-SC Trades is to allocate congestion costs for contractual delivery between the two counter-parties. The CAISO market prices at the location of the Inter-SC Trade, and at the points where the counter-parties schedule load and generation, determine the allocation of congestion costs.<sup>11</sup>

Although the existing CDWR contracts *must* be settled through the Inter-SC Trade mechanism in order to resolve the seller's choice problem, parties to other bilateral contracts (existing or new) are free to settle their contracts without using this service. If two contracting parties agreed to settle the delivery of their contract outside of the CAISO Inter-SC Trade mechanism, they could simply agree contractually on a counter settlement pricing point (*e.g.*, Node A). When the buyer sends the seller a payment for the bilateral energy contract price, it would subtract from it the price at Node A. Thus, if market participants have or wish to enter into bilateral contracts with settlement provisions that are different from the CAISO's proposed Inter-SC Trade mechanism, they can agree not to use the CAISO's settlement service. Therefore, this Proposal is not restricting market participants from settling bilateral contracts in any manner they deem appropriate. Because of this flexibility, the CAISO believes the Proposal should be acceptable to all market participants.

Existing seller's choice contracts are problematic under LMP to the extent they can be interpreted to give the seller unilateral discretion in choosing a contractual delivery point (*i.e.*, an Inter-SC Trade point) anywhere on the grid, regardless of where the power is physically injected and regardless of whether the delivery quantities comport with the physical capabilities of the grid. As noted earlier, the Inter-SC Trade provides a counter settlement in which the buyer under a bilateral contract receives, and the seller pays, the price at the location selected for the Inter-SC Trade. If a contract is interpreted as providing the seller unilateral discretion in selecting the location of the Inter-SC Trade delivery point, the seller would have an incentive under LMP to select the lowest priced location, since that would minimize the amount of the counter settlement payment that the seller would pay to the buyer; it would also increase the congestion costs to the buyer. The problem created by the seller's choice contract is that the seller's selection of the lowest priced location for the Inter-SC Trade creates a category of unhedgable congestion cost, because the pricing points and quantities that the seller chooses for the Inter-SC Trades have no relation to the physical limitations of the grid. Depending on how a given contract is interpreted, the seller could in theory settle through an Inter-SC Trade 5,000 MW of contract deliveries at a

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<sup>11</sup> For example, if the buyer in a bilateral contract is charged \$50/MWh in the CAISO market for the load schedule associated with its bilateral contract and it receives \$40/MWh back through an Inter-SC Trade at the seller's generation node, the buyer is effectively paying the \$10 of congestion costs associated with delivering the power from the generation node to its load. In this case, the seller has zero congestion costs because it scheduled the energy at the same node that it executed the Inter-SC Trade (*i.e.*, it received, and then paid back via the Inter-SC Trade settlement, the same LMP). Conversely, if the parties agreed to execute the Inter-SC Trade at the location of the buyer's load (*i.e.*, at the price at which the scheduled load is settled by the CAISO), the \$10 of congestion costs would shift to the seller: the seller would collect a \$40/MWh LMP for its scheduled generation but would pay \$50/MWh to the buyer through the Inter-SC Trade, with the \$10/MWh difference representing the congestion costs.

low price generation node that can only physically accommodate 10 MW of energy. Such a situation can create significant congestion costs to the buyer that cannot be hedged through congestion revenue rights (“CRRs”), because CRR allocations are constrained by the physical limitations of the network. Assuming the buyer is the ultimate end-user, it would incur congestion costs because it would be charged a market price for its scheduled load (*e.g.*, the load aggregation point (“LAP”) price) that is higher than the price it receives back through the Inter-SC Trade with the seller. Consequently, the buyer will pay the congestion charges that are embedded in the difference between the two prices.<sup>12</sup>

Not only could sellers in seller’s choice contracts thus impose significant unhedgable congestion costs on buyers, as noted previously, the sellers would have a financial incentive to do so. To the extent a seller exercises its discretion under the contract to select nodes with low LMPs as the pricing points for Inter-SC Trades, the seller will receive significant financial transfers from the buyer.<sup>13</sup> The potential magnitude of the financial transfer can be measured in billions of dollars over the lives of the CDWR contracts, the longest of which runs for five and a half years following the anticipated implementation of LMP in early 2007.

Because seller’s choice contracts establish a category of congestion risk against which buyers cannot effectively hedge, they are inconsistent with the Commission’s clear policy, stated in the Standard Market Design Notice of Proposed Rulemaking,<sup>14</sup> that such risks be hedgable. In that notice, the Commission indicated its preference that system operators adopt “LMP as the system for transmission congestion management *and provide tradable financial rights -- Congestion Revenue Rights -- as a means to lock in a fixed price for transmission service.*”<sup>15</sup> The CAISO is committed to implementing an LMP-based market design, consistent with the Commission’s vision, but only if its major load-serving Scheduling Coordinators can use CRRs to effectively manage their congestion risk.<sup>16</sup>

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<sup>12</sup> The calculation of the congestion costs that are effectively paid by the buyer is explained in footnote 11, and later in this filing letter.

<sup>13</sup> As explained in footnote 11, the congestion costs imposed on the buyer are measured by the difference between the LMP at the node from which the buyer withdraws power (or the LAP price) and the LMP at the point chosen for the Inter-SC Trade. When the seller chooses a point with a lower LMP for an Inter-SC Trade, congestion costs for the buyer will rise. Similarly, the seller will receive a payment from the ISO equal to the difference between the LMP at the injection node and the point chosen for the Inter-SC Trade, representing negative congestion costs for scheduling power from a high cost node to a low cost node. If the point chosen for the Inter-SC Trade is the node at which the seller injects power into the grid, the congestion cost charged to the buyer is simply the difference between the LMP at the injection node and the LMP at the withdrawal node (or the LAP price). Accordingly, to the extent the seller is permitted to choose a point for the Inter-SC Trade that has an LMP lower than the LMP at the injection node, the difference between the prices at those two nodes effectively constitutes a financial transfer from the buyer to the seller.

<sup>14</sup> *Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design*, Notice of Proposed Rulemaking, FERC Stats. & Regs. ¶ 32,563 at P 15 (2002), 67 Fed. Reg. 55,451 (Aug. 29, 2002) (“SMD NOPR”).

<sup>15</sup> SMD NOPR at P 15 (emphasis added).

<sup>16</sup> The Commission recognized the gravity of this problem of unhedgable congestion risks in its June 17 Order, stating that “[w]hile we continue to believe that these contracts [*i.e.*, seller’s choice contracts] represent

The CAISO developed its Inter-SC Trade Proposal with the problem created by these existing seller's choice contracts in mind. The central feature of the Proposal that solves the seller's choice problem is a requirement that in order for the CAISO to settle an Inter-SC Trade at a generator node, a seller must have (directly or through an Inter-SC Trade with another supplier) a physical resource scheduled at the same generation node at a level greater than or equal to the amount of the trade; the process for implementing this requirement is referred to as "physical validation." Importantly, the physical validation requirement preserves "seller's choice" -- a seller can deliver under a contract at any location where power can be physically injected into the network, provided the power is actually injected at the specified delivery location.

By limiting the CAISO's settlement of Inter-SC Trades at generation nodes to trades that can be physically validated, the Proposal will ensure that the seller has scheduled resources at the node and that the seller's resources do not exceed the physical limitations of the grid at the delivery node. While it will not eliminate the accrual of congestion charges by buyers, the physical validation requirement will reduce the congestion charges associated with Inter-SC Trades to a level commensurate with the actual congestion in the forward energy market. It does this by limiting the settlement of seller's choice contracts at individual nodes to the physical capacity of the grid at those nodes. Because the CAISO will issue CRRs that reflect the physical capacity of the grid, that is, based on the physical capacities of the grid at and between each node, it should be possible for buyers under seller's choice contracts to obtain sufficient CRRs to hedge the congestion charges resulting from delivery under those contracts.<sup>17</sup>

The Proposal also provides for Inter-SC Trades at trading hubs and load aggregation points; the CAISO will not, however, physically validate those trades. The ability for parties to use the Inter-SC Trade mechanism at trading hubs and load aggregation points without the need to provide physical validation is similar to the zonal Inter-SC Trade mechanism available today, which validates physical delivery only on a system aggregated basis (*i.e.*, scheduled load and exports equals scheduled generation and imports).

The CAISO's Proposal is just and reasonable because: 1) it provides a framework for resolving the problems that have arisen with regard to existing seller's choice contracts under an LMP-based congestion management system, 2) it provides for reasonable flexibility in settlement of other existing or new bilateral power contracts between market participants, thus providing a

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commercial matters best left to resolution between parties to these contracts, these contracts appear to stand in the way of needed reforms to the reliable operation of the CAISO grid and may therefore be unjust and unreasonable." June 17 Order at P 166.

<sup>17</sup> The CAISO acknowledges that there may be other aspects of the MRTU design that may affect the ability of load serving entities to obtain sufficient CRRs to hedge congestion costs, some of which have been identified in a recent study by LECG Consulting that was commissioned by the CAISO. These other aspects will be examined and addressed through the CAISO's ongoing CRR studies and stakeholder efforts to develop and finalize the CRR allocation and auction design. The Commission approved the CAISO's CRR allocation rules in concept in its October 28 Order, but required the CAISO to submit estimated allocation quantities prior to MRTU implementation. October 28 Order at P 172, 177.

settlement service that will be useful to the general market, particularly at trading hubs and LAPs, where most bilateral contracts are likely to be delivered, and 3) assuming Commission approval of an adequate LMPM plan under LMP, it eliminates the need for the CAISO to pursue an alternative to LMP, thus enabling California ratepayers to realize the benefits of the superior LMP market design. For these reasons and the reasons set forth herein, the Commission should expeditiously approve the Proposal without modification. *See also* Parts VII and VIII, *infra*.

## **II. THE INTER-SC TRADE PROPOSAL IS THE PRODUCT OF A SIGNIFICANT STAKEHOLDER PROCESS AND HAS UNDERGONE SEVERAL MODIFICATIONS IN RESPONSE TO STAKEHOLDER FEEDBACK**

In the spring of 2004, the CAISO initiated an effort to explore options for an Inter-SC Trade mechanism that would address the seller's choice contract issue under LMP. The CAISO released a white paper describing concerns associated with settlement of seller's choice contracts under LMP and offered several options for Inter-SC Trade settlement rules to address those concerns.<sup>18</sup> It also requested and received comments from market participants about the different options proposed in the white paper.<sup>19</sup> In addition, the CAISO provided illustrative numerical examples of the potential effect of Inter-SC Trade settlement rules on pre-existing bilateral energy contracts once LMP was implemented.<sup>20</sup>

In the June 17 Order, the Commission instituted a Section 206 proceeding for the purpose of investigating the feasibility of both upholding seller's choice contracts without modification and implementing the CAISO's proposed redesign, and directed that this assessment include an examination of the degree to which these types of contracts present market inefficiencies and are not operationally and economically compatible with the CAISO's proposed redesign, as well as the options for resolving the issues surrounding the sellers' choice contracts.<sup>21</sup> Settlement discussions commenced in July 2004.

The CAISO has actively participated in the Section 206 proceeding, providing technical support to parties by explaining detailed aspects of the proposed LMP market design and how it relates to the settlement of bilateral energy contracts. The CAISO has also further developed aspects of the MRTU conceptual design that have important implications for seller's choice contracts as well as other pre-existing bilateral energy contracts. Specifically, the CAISO led an

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<sup>18</sup> See California ISO White Paper, "Market Design 2002 Scheduling Rules: Alternatives for Mitigating the Impact of Nodal Pricing on Pre-existing Bilateral Energy Contracts," March 9, 2004, available at <http://www.aiso.com/docs/2004/03/09/2004030909273623396.pdf>.

<sup>19</sup> See, e.g., stakeholder comments from Calpine, Northern California Power Association, Southern California Edison, Powerex, Pacific Gas & Electric, The Independent Energy Producers Association, SVP, Strategic Energy, California Municipal Utilities Association, California Public Utilities Commission at <http://www.aiso.com/docs/2004/03/09/2004030909140522185.html>.

<sup>20</sup> See California ISO Discussion Document, "Impact of Nodal Pricing on Pre-existing Bilateral Energy Contracts (Illustrative Examples)," June 1, 2004, available at <http://www.aiso.com/docs/2004/06/14/200406141531587707.pdf>.

<sup>21</sup> See June 17 Order at PP 165-166.

extensive stakeholder process to further define and clarify the role and definitions of trading hubs under MRTU.<sup>22</sup>

On November 19, 2004, the CAISO provided a white paper describing its proposal regarding the settlement of Inter-SC Trades to market participants.<sup>23</sup> It then hosted an all-day stakeholder meeting on December 9, 2004 to review the proposal,<sup>24</sup> and requested and received numerous written comments on the proposal on December 22, 2004.<sup>25</sup> The CAISO subsequently hosted a second stakeholder meeting on January 11, 2005 in which several significant modifications were made to the proposal in response to stakeholder feedback,<sup>26</sup> issued a revised white paper on January 14, 2005,<sup>27</sup> and finalized the white paper on March 11, 2005.<sup>28</sup> The CAISO Governing Board approved the proposal on January 27, 2005 and authorized this filing.<sup>29</sup>

In summary, this Proposal concerning Inter-SC Trades is the product of a significant stakeholder process in which several modifications to the CAISO's originally proposed Inter-SC Trade design were made in response to stakeholder feedback.

### **III. THE CAISO'S PROPOSED INTER-SC TRADE MECHANISM IS A FLEXIBLE SERVICE THAT FACILITATES DELIVERY AND SETTLEMENT OF BILATERAL ENERGY CONTRACTS**

#### **A. Inter-SC Trades Facilitate the Delivery and Settlement of Bilateral Energy Contracts by Providing a Counter Settlement to Offset the CAISO's Energy Market Settlement of Bilateral Contract Schedules and to Allocate Congestion Costs**

As in the CAISO's current market design, the Inter-SC Trade mechanism under the CAISO's proposed LMP-based congestion management system can be used as a mechanism for contractual delivery of energy. However, unlike today, Inter-SC Trades under MRTU will also

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<sup>22</sup> See CAISO papers regarding development of trading hubs under MRTU and stakeholder comments regarding CAISO trading hub proposals at <http://www.caiso.com/docs/2004/08/17/2004081714581426212.html>.

<sup>23</sup> See "CAISO Proposed Market Rules for Inter-SC Trade Functionality under MRTU," November 19, 2004, available at <http://www.caiso.com/docs/2004/11/19/2004111912581317882.pdf>.

<sup>24</sup> Meeting agenda and presentation are available at <http://www.caiso.com/docs/2004/03/09/2004030909140522185.html>.

<sup>25</sup> Comments are available at <http://www.caiso.com/docs/2004/03/09/2004030909140522185.html>.

<sup>26</sup> Meeting agenda and presentation are available at <http://www.caiso.com/docs/2004/03/09/2004030909140522185.html>.

<sup>27</sup> See White Paper at <http://www.caiso.com/docs/2005/01/14/2005011409344729937.pdf>.

<sup>28</sup> See Attachment A to this filing, also available at <http://www.caiso.com/docs/2005/03/11/2005031110480326970.pdf>.

<sup>29</sup> See "Market Redesign and Technology Upgrade (MRTU) – Approval of Conceptual Design for Inter-SC Trades" and record of Board's vote to approve proposal at <http://www.caiso.com/docs/2005/01/21/2005012114160113491.html>.

be used to provide a counter settlement to offset the CAISO's energy market settlement of the schedules (energy and load) associated with the bilateral transaction. The Inter-SC Trade also provides a means for contracting parties to allocate the cost of transmission congestion associated with delivery under the bilateral contract.

Although the CAISO is offering to settle Inter-SC Trades as part of its settlement system, this service is not an essential feature of the CAISO's new market design. ISOs/RTOs do not need to offer bilateral contract settlement services in order for an LMP-based market design to work. The New York Independent System Operator ("NYISO"), for instance, does not provide bilateral contract settlement services;<sup>30</sup> its market participants must settle their bilateral contracts on their own. The CAISO will offer its Scheduling Coordinators greater flexibility, in that they may choose to settle bilateral energy contracts through the CAISO Inter-SC Trade mechanism or on their own.

The need for buyers and sellers under a contract to have a counter settlement that reverses the CAISO's energy market settlement of the scheduled load and generation associated with the contract is a byproduct of introducing a forward energy market. In order to determine and allocate congestion costs under a forward energy market, it is necessary to settle all schedules in the market at the market clearing prices, even those associated with bilateral transactions. While the CAISO intends to implement an LMP-based forward energy market, the same need to settle all market schedules would arise if the CAISO implemented a forward energy market based on the current zonal structure.

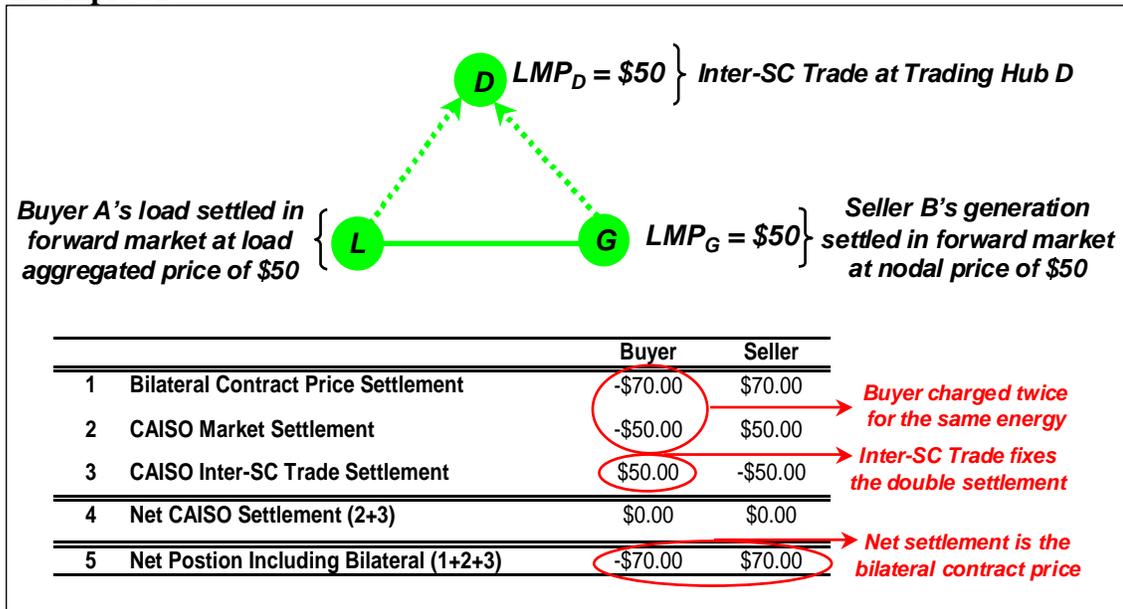
**B. Numeric Examples Clarify How Inter-SC Trades Facilitate the Settlement of Bilateral Energy Contracts and How an Identical Settlement Could be Performed Bilaterally Without an Inter-SC Trade**

This section provides some simple numeric examples that will help to clarify how Inter-SC Trades under LMP facilitate the settlement of bilateral energy contracts and how an identical settlement could be accomplished bilaterally without an Inter-SC Trade. Example 1 assumes that two parties have contracted for power at a price of \$70, and agree to settle the delivery at Trading Hub D using an Inter-SC Trade. Further assume that the energy schedule supporting this bilateral contract is scheduled at the generator node, Node G, and the load receiving this bilateral contract delivery is scheduled at the load aggregation point ("LAP"), L. Further assume that the price at all of these locations is \$50, indicating that there is no congestion on the grid.

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<sup>30</sup> See, e.g., "Proposal to NYISO on Accepting Bilateral Contracts for Energy Settlement," which noted that "[f]irm . . . contracts [currently are] not accepted for energy settlement, therefore, LSEs and marketers often must sign a contract for differences (CFD) to hedge energy bilaterally," available at <http://www.nyiso.com>.

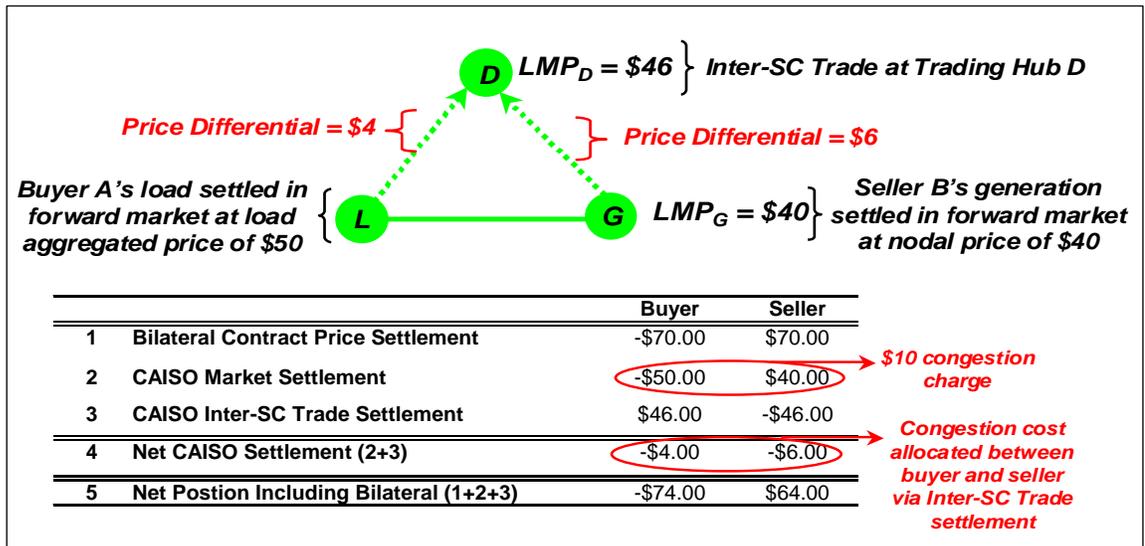
**Example #1**



The financial settlement of the above transaction will be as follows. The seller will schedule power to the grid at Node G and collect the LMP of \$50 from the CAISO. The buyer will schedule load at LAP L, and will be charged the \$50 LAP price. To settle the Inter-SC Trade at Trading Hub D, the seller will pay the CAISO the \$50 hub price and the buyer will receive from the CAISO the \$50 hub price. The net result of these transactions is that the seller will earn a net payment from the CAISO of \$0, the difference between the \$50 payment received from the CAISO at Node G for the generation schedule and the \$50 Inter-SC Trade payment made to the CAISO at Trading Hub D. Similarly, the buyer will also make a net payment to the CAISO of \$0, the difference between the \$50 payment made by buyer at LAP L for its load schedule and the \$50 Inter-SC Trade payment received at Trading Hub D. When combined with the \$70 settlement of the bilateral contract directly between the parties, the buyer pays a net of \$70 and the seller receives a net of \$70, which is the bilateral contract price. Thus, this example demonstrates that absent congestion, the role of the Inter-SC Trade is simply to provide a counter settlement to the CAISO market settlement of bilateral energy schedules so that the net financial settlement to the contracting parties simply reflects the fixed energy price in the contract.

Example 2 demonstrates how a bilateral energy contract under LMP will settle if there is congestion on the grid. Once again, assume that two parties have contracted to sell and buy power at a price of \$70, and the delivery point for the Inter-SC Trade is specified as Trading Hub D. In this instance, however, the LMP at the generator node, Node G, is \$40, the price at LAP L is \$50, and the price at Trading Hub D is \$46.

**Example #2**



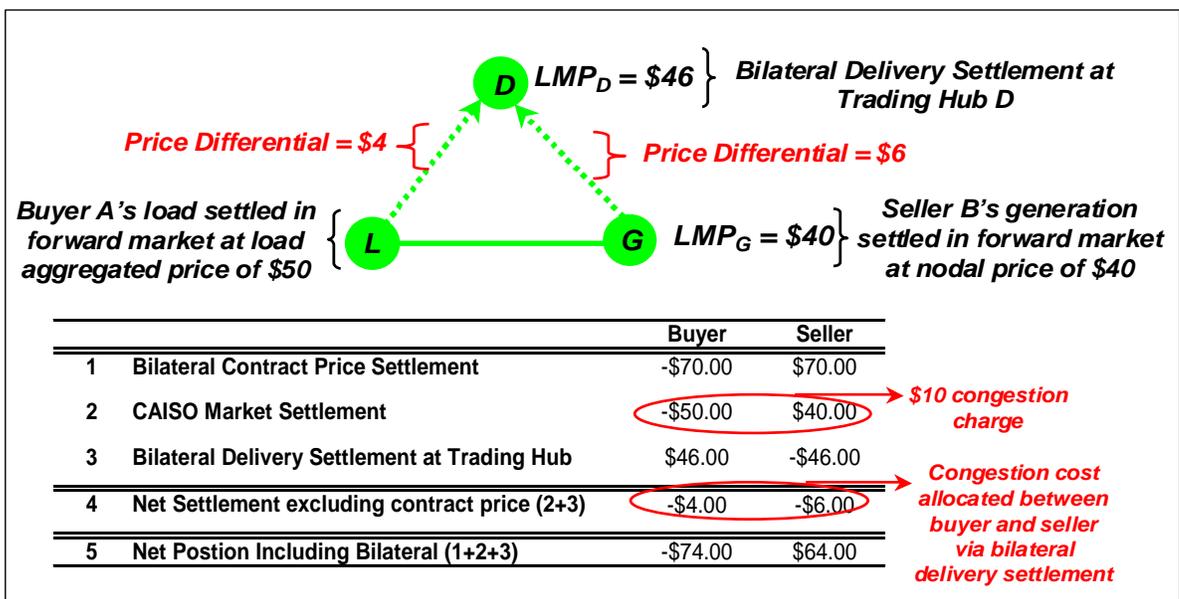
In this case, there is a \$10 congestion cost associated with the scheduled injection of power at Node G and the scheduled withdrawal of power at LAP L. The Inter-SC Trade at Trading Hub D serves to allocate that \$10 congestion cost between the buyer and seller as follows. The seller will schedule power at Node G and collect the LMP of \$40 from the CAISO. The buyer will schedule load at LAP L, and pay the \$50 LAP price. To settle the Inter-SC Trade at Trading Hub D, the seller will pay the CAISO the \$46 hub price and the buyer will receive from the CAISO the \$46 hub price. The net result of these transactions is that the seller will incur a net CAISO charge of \$6, the difference between the \$40 payment received from the CAISO at Node G for its scheduled generation and the \$46 Inter-SC Trade payment made to the CAISO at Hub D. The buyer will incur a net CAISO charge of \$4, the difference between the \$50 payment made by the buyer at LAP L for its scheduled load and the \$46 Inter-SC Trade payment received by the buyer at Hub D. These net CAISO settlements reflect the allocation of the \$10 congestion cost (*i.e.*, the seller pays \$6 and the buyer pays \$4). When combined with the \$70 settlement of the bilateral contract that occurs directly between the parties, the buyer will pay a net of \$74 (\$70 bilateral contract cost plus \$4 congestion charge) and the seller will receive a net payment of \$64 (\$70 bilateral contract payment less \$6 congestion charge). Accordingly, the selection of Trading Hub D as the settlement point for the Inter-SC Trade effectively is a decision regarding how to allocate congestion charges between the parties to the contract.<sup>31</sup>

As previously discussed, the settlement service provided by an Inter-SC Trade could be performed bilaterally (*i.e.*, without the use of the CAISO Inter-SC Trade mechanism), as demonstrated in Example 3. In Example 3 there is a net settlement between the bilateral parties that is identical to Example 2 and is performed without using the CAISO Inter-SC Trade

<sup>31</sup> If the seller in Example 2 possesses CRRs to hedge the congestion costs between Node G and Trading Hub D, and the buyer in Example 2 possesses CRRs to hedge the congestion between Trading Hub D and LAP L, neither party will incur any net congestion charges. Under the CAISO's new market design, CRRs will be allocated to load serving entities. If the seller is not a load serving entity, it will incur the cost of purchasing the CRRs.

mechanism. In this case, the parties simply provide the counter settlement provided by the Inter-SC Trade on their own. Specifically, the example shows that in addition to the parties settling the contract price of \$70, they would also bilaterally settle the contract delivery price at Trading Hub D of \$46. The only CAISO settlement in this case is the market settlement for the scheduled load and generation (\$50 LMP price charged to the buyer's scheduled load and \$40 generation price paid to the seller's scheduled generation). Therefore, the allocation of the \$10 congestion charge is effectuated through the combination of the CAISO market settlement for the schedules and the contracting parties' bilateral counter settlement at the trading hub. Note that this example yields an identical result to Example 2, which demonstrates that parties can settle their bilateral contracts without using the CAISO's Inter-SC Trade mechanism. Moreover, such a bilateral settlement of contract delivery should be easy to accomplish, since the CAISO will be posting all LMP prices as well as trading hub and LAP prices, and the contracting parties have to perform a bilateral settlement for the contract price in any event.

**Example #3**



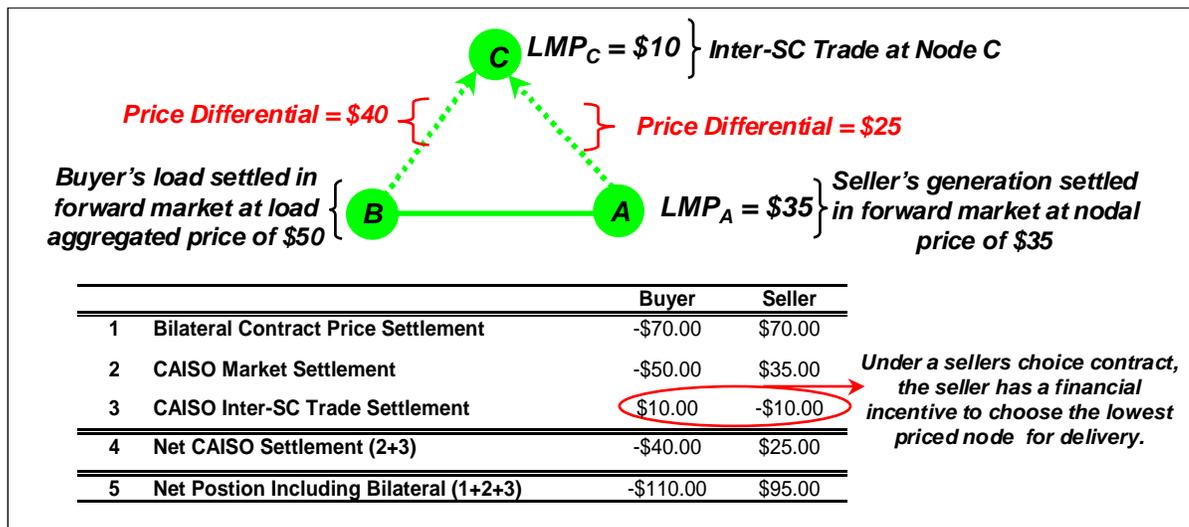
**IV. SELLER'S CHOICE CONTRACTS CREATE A PROBLEM UNDER LMP TO THE EXTENT THEY ARE INTERPRETED TO GIVE THE SELLER UNILATERAL DISCRETION TO EXECUTE AN INTER-SC TRADE AT ANY NODE IN THE NETWORK REGARDLESS OF WHERE THE CONTRACTED POWER IS PHYSICALLY INJECTED**

If a seller's choice contract is interpreted as permitting a seller to choose to settle an Inter-SC Trade at any node on the grid, then, in the absence of any restriction on Inter-SC Trades, the seller would have a financial incentive to settle the Inter-SC Trade for the entire contractual amount of energy at the lowest priced node in the network, in order to minimize its Inter-SC Trade payments, regardless of where the power is actually scheduled and regardless of

the physical capabilities of the transmission network.<sup>32</sup> As previously discussed, the CAISO's issuance of CRRs must be limited by the physical capabilities of the transmission grid to ensure that the CAISO collects sufficient revenues to pay all CRR holders. Accordingly, the volume of CRRs from a particular injection point cannot exceed the physical capabilities of the grid to receive power at that node. If seller's choice contracts could be settled at the lowest priced nodes in the network, regardless of where the power was actually scheduled and regardless of the physical capabilities of the transmission network at those locations, it would be impossible for the buyers to hedge congestion costs, violating a key tenet of the CAISO's new market design and the policy stated in the Commission's SMD NOPR.

The seller's incentive can be seen in Example 4, which assumes that two parties have a bilateral contract for power at a price of \$70, with the contract delivery point specified as "any generator node." If the Inter-SC Trade is executed at generator Node A (*i.e.*, where the power is actually scheduled), settlement of this transaction in the forward energy market will impose a \$15 congestion fee on the buyer, represented by the difference between the \$35 LMP at Node A and the \$50 LMP price at Point B. In this case, the seller will have zero congestion costs because it will be paying back, via the Inter-SC Trade, the same LMP that it receives in scheduling the power at Node A, and its net settlement revenue is simply the \$70 it receives under the contract.

**Example #4**



If the seller chooses to settle the Inter-SC Trade at Node C instead of Node A, the settlement will result in the transfer of significant additional revenues from the buyer to the seller. In this case, the transaction will settle as follows. The seller will schedule power at Node A and collect the LMP of \$35 from the CAISO. The buyer will schedule load at LAP B, and pay

<sup>32</sup> It is important to understand that an Inter-SC Trade is a settlement function that is completely decoupled from the actual forward energy market; it has no role in scheduling, bidding, or LMP determination in the forward energy market. Because of this, an Inter-SC Trade is not inherently bound by the limitations of the physical grid.

the \$50 LAP price. To settle the Inter-SC Trade at Node C, the seller will pay the CAISO the \$10 LMP and the buyer will receive from the CAISO the \$10 LMP.

The combined result of these transactions is that the seller will receive a net payment from the CAISO of \$25, the difference between the \$35 payment received from the CAISO at Node A for the scheduled generation and the \$10 Inter-SC Trade payment made to the CAISO at Node C. The buyer will be subject to a net CAISO charge of \$40, the difference between the \$50 payment made by the buyer at LAP B for its scheduled load and the \$10 Inter-SC Trade payment received from the CAISO at Node C. Note that the buyer is incurring a \$40 congestion charge from the CAISO even though the actual congestion costs, based on the difference in prices between Node A, where the power is physically injected, and LAP B is only \$15. The additional \$25 charge to the buyer reflects the \$25 net payment received by the seller.

When combined with the \$70 settlement of the bilateral contract directly between the parties, the buyer pays a net of \$110 and the seller receives a net of \$95. The allocation of the cost between the parties represents a significant financial transfer from the buyer to the seller, which has nothing to do with the efficiency or reliability of the grid. By using its discretion to settle at any node, the seller effectively imposed on the buyer the cost of congestion from a very low priced node. Moreover, to the extent that the bilateral contract allowed contractual delivery that exceeded the capacity of the grid at Node C, it would be impossible for the buyer to hedge these potentially significant congestion charges.

## **V. HOW THE CAISO'S PROPOSAL RESOLVES THE PROBLEM CREATED BY SELLER'S CHOICE CONTRACTS IN AN LMP MARKET**

To address the seller's choice problem, the Proposal limits CAISO settlement of Inter-SC Trades at generation nodes to trades that the CAISO has physically validated. Specifically, in order for the CAISO to settle Inter-SC Trades at a generator node, a seller must have (directly or through an Inter-SC Trade with another supplier) a physical resource scheduled at the same generation node at a level greater than or equal to the amount of the trade; the process for implementing this requirement is referred to as "physical validation."

Requiring physical validation of Inter-SC Trades at generation nodes limits the volume of contractual sales settled at any node to the physical capabilities of the grid at that node and in so doing increases the likelihood that load will obtain sufficient CRRs to hedge the congestion costs associated with this contractual delivery. By prohibiting a seller from settling an Inter-SC Trade at a node for a volume of power that exceeds either the generator's capability (*i.e.*, P-max) or the ability of the transmission grid to receive power at that node, the physical validation requirement effectively eliminates the seller's opportunity to impose on the buyer a transaction that is impossible to hedge.

### **A. Physical Validation of Inter-SC Trades at Nodes**

Physical validation requires that an Inter-SC Trade at a generator node be supported by a "transmission feasible" generation resource schedule at the same location. A "transmission

feasible” schedule refers to a generator’s final schedule after the CAISO’s forward energy market clears. Physical validation of Inter-SC Trades will be a three-step process, which will begin upon initial submission of an Inter-SC Trade to the CAISO and conclude with a post-market validation of the trade. The process will ensure that the trade does not exceed the physical capabilities of the identified resource or the capacity of the grid at the relevant node, either individually or when combined with other trades drawing on the same physical resource or made at the same node.

Inter-SC Trades at generator nodes will be subject to physical validation prior to and after the forward energy market clears. Prior to market clearing, individual trades that exceed a resource’s capacity will not be validated and will be sent back to the Scheduling Coordinator. Additionally, if a series of linked trades drawing on a single resource are individually valid (*i.e.*, each trade individually does not exceed the maximum capability of the resource) but collectively exceed the resource’s scheduled or offered quantity, each of the Inter-SC Trades relying on the oversubscribed resource will be reduced on a pro-rata basis until the Inter-SC Trades are valid. Any additional downstream transactions with a Scheduling Coordinator’s counter-parties (*i.e.*, the trading counter-parties were using the trade as a source for other trades) also will be reduced on a pro-rata basis until they become valid. The portions by which these trades are reduced are not settled by the CAISO. This process is referred to as “Pre-Market Validation.” Finally, the volume of Inter-SC Trades that pass the Pre-Market Validation process may be reduced after the forward market clears if the generating unit supporting the Inter-SC Trades has a final market schedule that is below the quantity of Inter-SC Trades at that location. The MW quantities of Inter-SC Trades that are adjusted down during this “Post-Market Validation” will be converted to trades at the EZ Gen Hub price<sup>33</sup> of the existing congestion zone containing the generator. The portion of the Inter-SC Trade that remains intact will be settled at the LMP for the selected generation node. This process is described in greater detail in the comprehensive description of the design proposal for Inter-SC Trades under MRTU at Attachment A to this filing.

Settling the curtailed portion of these Inter-SC Trades at the EZ Gen Hub price is appropriate because it represents the best proxy price for the “market cost” of serving the contract. For example, if Generator A and its counter-party had made an initial Inter-SC Trade at generation node A, where Generator A is located, for 100 MW, but Generator A’s final market schedule was 80 MW, then the 80 MW schedule is serving the contract and this quantity of the Inter-SC Trade is appropriately settled at the LMP for generation node A. The only remaining question is how the remaining 20 MW of bilateral contract is to be served. Assuming the buyer’s 100 MW of load associated with this bilateral cleared the forward market, the 20 MW not being served by Generator A is essentially being served by “market energy” (*i.e.*, other supply resources that cleared the forward market). The CAISO reasoned, and most stakeholders agreed, that the best representation of “market energy” in this case is the EZ Gen Hub price for the zone that contains Generator A.

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<sup>33</sup> Under LMP, the CAISO will implement EZ Gen Hub prices for today’s existing internal congestion zones (NP15, SP15, and ZP26). The EZ Gen Hub prices will represent the average price paid to generation within the zone and as such, will be based only on LMPs at generation nodes.

## **B. Inter-SC Trades at Hubs and Load Aggregation Points**

Inter-SC Trades at hubs and LAPs will not be subject to physical validation. Inter-SC Trades at hubs and LAPs will be subject only to a streamlined pre-market validation, which will involve confirming that both parties to the trade agree on the quantity and location of the trade. The ability for parties to use the Inter-SC Trade mechanism at trading hubs and LAP without the need to provide physical validation is similar to the zonal Inter-SC Trade mechanism available today, which validates physical delivery only on a system aggregated basis (*i.e.*, scheduled load and exports equals scheduled generation and imports).

## **VI. THE CAISO IS COMMITTED TO RESOLVING THREE ISSUES THAT RELATE TO THIS PROPOSAL, THE RESOLUTION OF WHICH WILL NOT AFFECT THE PROPOSAL**

Stakeholders have raised three specific issues that relate to the Proposal, the resolution of which *will not change* any aspect of the Proposal. Nonetheless, the CAISO feels it is important to acknowledge these issues and affirm its commitment to work with stakeholders to resolve them.

The first issue concerns the CAISO's credit and collateral policies for Inter-SC Trades. The CAISO appreciates the importance of this issue but believes that it is best dealt with in a comprehensive fashion. The CAISO, therefore, intends to address a credit and collateral policy for Inter-SC Trades in the context of developing a comprehensive credit and collateral policy for the entire MRTU market design. The CAISO will initiate stakeholder activities on this subject at a later date once other outstanding MRTU market design issues are finalized.

The second issue concerns the CAISO's proposed treatment of Existing Transmission Contracts ("ETCs") under MRTU, the main elements of which were approved in principle by the Commission on February 10, 2005. Under MRTU, the CAISO will credit back the congestion costs associated with ETC schedules that are within the CAISO Control Area. The CAISO refers to this credit back as the "perfect hedge" mechanism.<sup>34</sup> Some ETCs have delivery points (nodes) that are interconnection points on the grid as opposed to generation nodes. Therefore, the congestion charge associated with those schedules, which the CAISO would credit back, would reflect the congestion between the source of the ETC schedule and the interconnection point. To the extent ETC schedules involve bilateral transactions (*e.g.*, a Participating Transmission Owner schedules on behalf of an ETC holder), it has been suggested that the CAISO Inter-SC Trade mechanism could be used to facilitate the bilateral settlement of ETC schedules and the credit back of congestion costs and the Inter-SC Trade settlement design should therefore be modified to allow trades at the additional interconnection points specified in the ETC contract.

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<sup>34</sup> The Commission approved in principle the CAISO's proposed treatment of ETCs and found the concept of the perfect hedge to be "appealing" and directed the CAISO to provide additional information within 30 days. *California Independent System Operator Corporation Guidance*, 110 FERC ¶ 61,113 (2005).

The CAISO has not formally developed all the design specifications for how the “perfect hedge” mechanism for ETCs will be implemented in the MRTU scheduling and settlement systems. The Inter-SC Trade Proposal, which limits Inter-SC Trades to generation nodes, trading hubs and LAPs, does not preclude the use of the software platform for Inter-SC Trades to facilitate settlement of ETC congestion costs, including the ability to settle ETC transactions at points (specified in the ETC contract) that are neither generation nodes, trading hubs, nor LAPS (*e.g.*, interconnection points). However, these additional settlement points would only be provided to the ETC holders that have such points specified in their ETCs. Unlike other bilateral transactions, which always have the option of settling without the use of the Inter-SC Trade mechanism at any node or combination of nodes in the network, the bilateral settlement of ETC schedules will need to be settled through the CAISO in order to effectuate the credit back of congestion charges. Therefore, if the Inter-SC Trade software is used to facilitate the settlement of ETC schedules, it is appropriate for the CAISO to provide ETC holders with some additional bilateral settlement options as reflected in the terms of their ETCs.

The final issue concerns whether the CAISO will offer, consistent with today’s market design, Inter-SC Trades of ancillary service obligations. The current Proposal pertains only to Inter-SC Trades of energy transactions. The CAISO anticipates addressing whether it can provide additional functionality for Inter-SC Trades of ancillary service obligations prior to its MRTU tariff filing currently slated for November 2005. The resolution of this issue will not affect the proposed Inter-SC Trade design for energy transactions.

To reiterate, these three issues will be addressed at the appropriate time and place but their resolution will in no way affect this Proposal. This Proposal is a complete and detailed design for how Inter-SC Trades for energy will be validated and settled.

## **VII. THE CAISO’S PROPOSAL IS JUST AND REASONABLE**

The CAISO’s Proposal is just and reasonable for several reasons. First, the Proposal provides for reasonable flexibility in settlement of new bilateral power contracts between market participants, thus providing a settlement service that will be useful to the general market, particularly at trading hubs and LAPs where energy under most contracts is likely to be contractually delivered and settled. Inter-SC Trades can occur at any generation node, so long as the trade is supported by a “transmission feasible” physical schedule. Moreover, nothing in the Proposal would preclude parties from settling their bilateral contracts outside the CAISO settlement system.<sup>35</sup> Accordingly, the CAISO’s Proposal does not limit market participants’ ability to enter into bilateral power contracts with whatever settlement provisions they desire – it simply dictates that if they choose to use the CAISO’s Inter-SC Trade mechanism for settling their contracts, the trades will be settled by the CAISO in accordance with its Inter-SC Trade rules.

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<sup>35</sup> As previously noted, in order for this Proposal to effectively address the seller’s choice contracts, these parties must either agree to settle these contracts using the CAISO Inter-SC Trade service, or be required to do so.

Second, the Proposal provides a framework for resolving the problems that have arisen with regard to the treatment of seller's choice contracts under an LMP-based congestion management system, the CAISO's preferred congestion management system. To the extent that parties to seller's choice contracts choose to settle their contracts through the CAISO's settlement service, or the Commission requires such settlement, the CAISO's Proposal resolves the seller's choice issue set for hearing. Moreover, it resolves the seller's choice problem while preserving true seller's choice: a seller can deliver under its contract at any location where power can be physically injected to the network provided it was actually injected at the specified contract delivery location. The CAISO is still in the relatively early phases of conducting its CRR studies. However, with the seller's choice problem solved, the CAISO expects that load serving entities should be able to obtain sufficient CRRs to hedge congestion costs associated with bilateral contract deliveries.

Third, assuming an adequate LMPM plan under LMP, the Proposal eliminates the need for the CAISO to pursue an alternative to LMP as a congestion management system, thus enabling California ratepayers to realize the benefits of the superior LMP market design. For the reasons set forth herein, the Commission should approve the instant Proposal without modification.

#### **VIII. THE CAISO REQUESTS APPROVAL OF THE PROPOSAL BY MID-MAY**

The software and process to settle Inter-SC Trades must be developed simultaneously with certain other software components to assure its seamless integration with the overall market functionality. This requires that the development and testing timelines for the settlement of the Inter-SC Trade design correspond with the balance of the overall MRTU program schedule. The CAISO therefore requests that the Commission issue a ruling on this Proposal by mid-May.<sup>36</sup>

The Proposal represents a complete, detailed description of the services that the CAISO will provide with respect to the settlement of Inter-SC Trades of energy under the new market design and includes a description of EZ Gen Hubs that the CAISO has developed through a stakeholder process as successor contract delivery points under LMP to today's existing zones. At this time, the CAISO is not filing proposed tariff language for this Proposal because such tariff language will need to be developed as part of the comprehensive MRTU tariff, which is not expected to be filed with the Commission until the end of this year. Nonetheless, the Commission should view this design as a final product, which can be converted into Tariff language at a later date without substantive modification or expansion of detail.

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<sup>36</sup> As with any complex software development effort, a key facet is bringing independently functioning elements together in an integrated environment. Individual components are developed with their specific functionality proven through unit, factory acceptance and site acceptance testing prior to the integration effort. There is limited time available to submit change orders to vendors to assure that the Inter-SC Trade functionality can be developed and tested in time for Program integration activities scheduled to begin in January 2006.

The Honorable Magalie R. Salas

March 15, 2005

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**IX. SERVICE**

The CAISO has served this filing on the Public Utilities Commission of the State of California, the California Energy Commission, the California Electricity Oversight Board, and all parties with Scheduling Coordinator Agreements under the CAISO Tariff. In addition, the CAISO has served the filing on all parties on the official service lists in Docket Nos. EL04-108-000 and ER02-1656-000 and has posted a copy of the filing on its Home Page.

**X. NOTICES**

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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# **Attachment A**

## **California ISO Comprehensive Design Proposal for Inter-SC Trades Under MRTU**

**March 11, 2005**

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## California ISO

### Comprehensive Design Proposal for Inter-SC Trades under MRTU

March 11, 2005

#### Role and Purpose of Inter-SC Trades under MRTU

The role and purpose of Inter-SC Trades under MRTU will necessarily be different than the role of Inter-SC Trades under today's market design. Under today's market design, Inter-SC Trades are an "integrated" component of the market design, in that they are used to help balance each Scheduling Coordinator's portfolio of forward energy schedules. Under today's market design, each Scheduling Coordinator (SC) must submit a balanced schedule to the CAISO and Inter-SC Trades are used to allow Scheduling Coordinators to balance their portfolios through bilateral trades with other SCs. For instance, an SC that has a portfolio of load and generation that is short 100 MW of generation (i.e., its load schedule exceeds its generation and import schedules by 100 MW) can balance itself by doing an Inter-SC Trade with another SC that has a portfolio that is long in generation by 100 MW. By entering into the trade, both SCs meet the requirement of balanced schedules. The CAISO cannot run today's forward market until all SCs' schedules are balanced.

It is also important to note that the forward markets administered by the CAISO under today's market design are only for congestion management (inter-zonal) and ancillary services. The CAISO does not provide a forward "energy" market. Congestion management is performed at a zonal level in the CAISO forward market through adjusting the balanced energy schedules submitted by SCs in a manner that keeps their resulting schedules and ISTs balanced. By enforcing a balanced schedule requirement for each SC and maintaining each SC's balanced portfolio during congestion management (Market Separation Constraint), the CAISO avoids operating a forward energy market.

Under MRTU, the CAISO will be eliminating the balanced schedule requirement and in so doing will be creating a forward energy market (i.e., SCs will be able to come into the forward market with unbalanced portfolios and bid to purchase and sell energy). With the introduction of a forward energy market, Inter-SC Trades are no longer needed to balance schedules and in fact are no longer an essential or required element of the market design. Their only role under a forward energy market is to provide a settlement service for bilateral energy contracts. The settlement service offered by Inter-SC Trades is optional in the sense that the counter-parties to a bilateral contract could elect to settle their bilateral contract outside of the CAISO settlement system. For instance, the NY ISO, which runs a day-ahead LMP energy market, does not provide any bilateral settlement services for its market participants.

#### MRTU Inter-SC Trade (IST) Design Proposal

##### *Overview*

Under MRTU, the CAISO is proposing to offer Inter-SC Trade settlement services for bilateral energy transactions at generation nodes within the CAISO Control Area and aggregated pricing points (Trading Hubs and Load Aggregation Points). Consistent with today's market design, the

## California ISO – MRTU Inter-SC Trade Design

1 CAISO will not be offering Inter-SC Trades at Inter-tie Scheduling Points. Inter-SC Trades at  
2 individual generation nodes will be subject to a physical validation procedure in which the trading  
3 SCs will need to demonstrate that their trade is supported by a “transmission feasible” generator  
4 resource schedule at the same location. Such trades will be referred to in this document as  
5 Physical Trades or “PTs”. Inter-SC Trades at aggregated pricing points (Trading Hubs and Load  
6 Aggregation Points) will not be subject to physical validation by the CAISO. Inter-SC Trade  
7 settlement services will be provided in both the Day-Ahead Market and the Hour-Ahead Scheduling  
8 Process or Hour-Ahead Market should the CAISO ultimately implement a full-settlement Hour-  
9 Ahead Market. Inter-SC Trades submitted for the Day-Ahead Market will be settled at Day-Ahead  
10 Market prices. Inter-SC Trades submitted in the Hour-Ahead Scheduling Process will be settled at  
11 Real Time Market prices. Should the CAISO implement a full settlement Hour-Ahead Market,  
12 Inter-SC Trades submitted for this market would be settled at Hour-Ahead Market prices. It is  
13 important to note that Inter-SC Trades do not settle or affect the bilateral contract price. The  
14 counter-parties to the Inter-SC Trade will need to settle the bilateral contract price on their own.

### 15 ***Physical Inter-SC Trades (PTs)***

16 An Inter-SC Trade at an individual generation node will be subject to physical validation procedures  
17 to verify that the trade is supported by a “transmission feasible” generator resource schedule at the  
18 same location. A “transmission feasible” generator resource schedule is a generator’s final  
19 schedule after the CAISO forward energy market clears (i.e., after congestion management and  
20 the clearing of supply and demand bids). For instance, if an SC submits a requested self-schedule  
21 (i.e., price taker bid) or bid offer to the CAISO from Generator A for 100 MW, but after the forward  
22 energy market clears Generator A’s schedule is reduced to 80 MW, the 80 MW is the “transmission  
23 feasible” schedule. This example holds true even if Generator A submitted a requested self-  
24 schedule for 100 MW but was curtailed to 80 MW in the forward energy market due to congestion.

25 There are three stages to validating PTs:

- 26 1. PT Submittal Screening
- 27 2. PT Pre-Market Validation
- 28 3. PT Post Market Confirmation

### 29 **PT Submittal Screening**

30 The PT Submittal Screening involves validating that a PT does not exceed the physical capabilities  
31 of the identified generator resource (P-max). PTs that violate this screen will be automatically  
32 kicked back to the SC. This validation can be done before a schedule or bid is accepted for further  
33 processing.<sup>1</sup>

### 34 **PT Pre-Market Validation**

35 A the close of the Final Trading Period, which is defined below, all or part of a PT may be deemed  
36 invalid due to:

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<sup>1</sup> In practice, the ISO may combine PT Submittal Screening with PT Pre-Market Validation from a software systems perspective.

## California ISO – MRTU Inter-SC Trade Design

- 1 ➤ Inconsistencies in quantities (MW) or resource identification (i.e., the submittals by the SCs
- 2 on the two sides of the trade do not match),
- 3 ➤ An over-subscribed resource (e.g., total quantities of all Inter-SC Trades based on a
- 4 generator resource exceed the resource's bid offer or requested self-schedule).

5 PTs can be submitted anytime prior to the close of the forward energy market. The “close of the  
6 forward energy market” is the deadline for submitting bids and requested self-schedules to the  
7 forward energy market. Additionally, the CAISO will also provide a “Final Trading Period” that will  
8 occur after the close of the Day Ahead energy market but before the posting of the Day Ahead  
9 market results. During the Final Trading Period, Market Participants can submit new PTs and make  
10 adjustments to existing PTs. This Final Trading Period will be at least 30-minutes long for the Day-  
11 Ahead Market. The actual duration of the Final Trading Period will be determined at a later date  
12 once the CAISO has further developed the implementation details of this proposal and how it will  
13 interact with other MRTU system processes that will be running concurrently. During the Final  
14 Trading Period, no modifications can be made to bids and requested self-schedules for the Day-  
15 Ahead energy market (i.e., the Final Trading Period is only for submitting and adjusting ISTs). A  
16 similar “Final Trading Period” may be provided for the Hour Ahead Scheduling Process if the  
17 CAISO determines its market systems can accommodate it.

18 When SCs submit PTs to the CAISO that pass the aforementioned “Submittal Screening”, they will  
19 receive, through the CAISO Inter-SC Trade scheduling interface, immediate and continuous  
20 feedback on the status of their trade. At a minimum, this information will indicate whether the trade  
21 is currently “valid” or “invalid”. These trade status notices will be preliminary and subject to change  
22 because Inter-SC Trade trading will be ongoing and the status of trades can change (e.g., a trade  
23 with a “valid” status may be later rendered “invalid” by the actions of the parties to that trade or by  
24 other trading activities that are linked to source supporting that trade).<sup>2</sup> Trading SCs can use these  
25 continuous status updates to make modifications and communications with other trading SCs to  
26 complete and correct invalidated trades.

27 At the close of the Final Trading Period, the CAISO will perform a final Pre-Market Validation,  
28 which will work as follows:

- 29 ➤ Any individual PTs that are invalid due to inconsistencies between the trading counter-  
30 parties on the quantity and location of the trade will be rejected and returned to the trading  
31 SCs as invalid. The CAISO will not perform any settlement on these rejected PTs.
- 32 ➤ Remaining PTs that are individually valid will be concatenated (i.e., an SC with a buy  
33 position at a particular generation node may use that trade as its source in a second PT at  
34 the same location in which it has a selling position; such trading is often referred to as  
35 “daisy-chain transactions”). Once the concatenation of individually valid PTs is complete  
36 (i.e., the daisy-chains established), the CAISO will check to see if the concatenated trades  
37 are valid in aggregate. If within a particular trading chain, an SC has insufficient source

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<sup>2</sup> Only trading activity linked to the supporting source (the seller in the bilateral contact) of a trade (“upstream trades”) can affect the validity of a particular PT. Other trading activity linked to the sink (the buyer in the bilateral contract) of a trade (“downstream trades”) will not affect the trade.

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1 trades<sup>3</sup> to support all of its selling trades, the PTs of that SC and its trading counter-parties  
2 will be adjusted down pro-rata until the remaining PTs are valid. In addition, if there are  
3 additional downstream transactions with the SC's trading counter parties (i.e., the trading  
4 counter parties were using the trade as a source for another trade), those downstream  
5 transactions will be also adjusted pro-rata until they become valid. The CAISO will not  
6 perform any settlement with PT quantities that are curtailed during Pre-Market Validation.

### 7 **PT Post-Market Confirmation**

8 To ensure that the physical delivery obligation of PTs has been satisfied, PTs must be subject to  
9 further confirmation after market results are known. The MW quantity of PTs that pass Pre-Market  
10 Validation may be adjusted down after the forward market clears if the generating unit supporting  
11 the PTs has a final market schedule below the PT quantities. The MW quantities of PTs that are  
12 adjusted down during Post Market Confirmation will be converted to trades (not physically  
13 validated) at the Existing Zone Generation Hub Price<sup>4</sup> of the Existing Zone containing the  
14 generator. For example, suppose SC<sub>A</sub> is a Scheduling Coordinator for Generator A, which is  
15 located in the SP15 Congestion Zone, and sells, through a bilateral contract, 100 MW to SC<sub>B</sub>. Both  
16 SCs agree to settle the contract in the CAISO Day-Ahead Market as a PT at Generator A's node  
17 and submit a 100 MW PT to the CAISO that passes Pre-Market Validation. Suppose SC<sub>A</sub>  
18 submitted a requested self-schedule (i.e., price taker bid) for Generator A of 100 MW but after the  
19 forward energy market clears, Generator A has a final market schedule of 80 MW (i.e., the 100 MW  
20 requested self-schedule could not be accepted due to congestion). In this case, 20 MW of the 100  
21 MW PT would be converted to a trade (not physically validated) at the Day-Ahead SP15  
22 Generation Hub Price. The remaining 80 MW PT would be settled at Generator A's Day-Ahead  
23 LMP.

24 Generating units that have incremental dispatches in the Hour-Ahead Scheduling Process (HASP)  
25 will have a final advisory Hour-Ahead schedule but the incremental dispatch from this process will  
26 be settled at the Real-Time price. The unit's incremental Hour-Ahead schedule is advisory in that it  
27 may be further adjusted in the Real-Time Market. The Post Market Confirmation of HA PTs will be  
28 based on the unit's final advisory Hour-Ahead schedule (even for units that had their advisory  
29 Hour-Ahead schedule adjusted in the Real-Time market) but will be adjusted to account for any  
30 PTs the unit has in the Day Ahead market. For example, continuing with the previous example,  
31 suppose SC<sub>A</sub> did not submit any new incremental bids for Generator A in the Hour-Ahead  
32 Scheduling Process and its final Hour-Ahead Schedule remained at 80 MW. In this case, SC<sub>A</sub>  
33 could not submit valid HA PTs at Generator A's location because the unit's schedule is already  
34 committed to supporting an 80 MW PT with SC<sub>B</sub> in the Day-Ahead market. However, if SC<sub>A</sub>  
35 submitted an incremental offer of 20 MW from Generator A and that offer cleared the HASP (i.e.,  
36 Generator A had a final advisory HA schedule of 100 MW), SC<sub>A</sub> could support an HA PT at  
37 Generator A of 20 MW or less. Should the CAISO implement a full-settlement Hour-Ahead market,

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<sup>3</sup> For the SC of the generating unit, the source of the PT will be the generator's bid offer or requested self-schedule for the forward energy market.

<sup>4</sup> Under LMP, the CAISO will implement Existing Zone Generation Trading Hub prices for today's existing internal congestion zones (NP15, SP15, and ZP26). A more detailed description of these hubs is provided later in this document.

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1 the same basic process would apply except that HA PTs would be settled at Hour-Ahead market  
2 prices instead of Real-Time market prices.

3 It is important to note that the settlement of PTs is based on the supporting generator unit's final  
4 forward schedule (Day-Ahead final market schedule for Day-Ahead PTs, and Hour-Ahead final  
5 schedule for Hour-Ahead PTs – adjusting for DA PTs) and has nothing to do with the unit's actual  
6 operating level in real-time. Uninstructed deviations from final schedules (as adjusted by Real-  
7 Time dispatch instructions) will be settled according to the CAISO's Real-Time Market rules (i.e.,  
8 generation deviations will be settled at the generator's LMP<sup>5</sup> and subject to Uninstructed Deviation  
9 Penalty provisions).

### 10 ***Trades at Aggregated Pricing Points***

11 As noted previously, trades at aggregated pricing points (Trading Hubs and Load Aggregation  
12 Points) will not be subject to physical validation by the CAISO. These trades will be subject to a  
13 simpler Pre-Market Validation than is applied to PTs. They will not be subject to a Submittal  
14 Screening nor will they be subject to a Post-Market Confirmation. The Pre-Market Validation of  
15 these trades will involve confirming that both parties to the trade agree on the quantity and location  
16 of the trade. Similar to PTs, trades at aggregated pricing points can be submitted and adjusted  
17 during the Final Trading Period that will occur after the close of the Day-Ahead Market but before  
18 the Day-Ahead Market results are posted. SCs will receive immediate and continuous feedback on  
19 the status of their trades at aggregated pricing points through the CAISO Inter-SC Trade  
20 scheduling interface.

### 21 ***Existing Zone Generation Trading Hubs***

22 The CAISO proposes to provide Existing Zone Generation Trading Hubs ("EZ Generation Hub") as  
23 successor delivery points under LMP for today's existing internal congestion zones (NP15, SP15,  
24 and ZP26). The EZ Generation Hub prices will represent the average price paid to generation  
25 within the zone and as such, will be based on only LMPs at generation nodes. The precise  
26 weighting factors used to calculate the EZ Generation Hubs will be deferred for further stakeholder  
27 input and study. Some options under consideration include the following:

- 28 1. Simple average of generation LMPs;
- 29 2. P-max weighted average of generation LMPs; and,
- 30 3. Weights based on annual average generation unit output.

31 Under any of these options, the CAISO believes it would be appropriate to determine a fixed set of  
32 weights for each year, prior to the annual CRR allocation and auction process. The CAISO would  
33 update the EZ Generation Hub formulas annually to reflect new generation additions and unit  
34 retirements. Providing such annual adjustments would help to better ensure the hub prices  
35 accurately reflect the average price paid to generation within the zone.

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<sup>5</sup> With the potential exception of a Metered Sub System (MSS) that elects to settle with the CAISO on a net basis, in which case deviations from its generating units' final schedules will, as currently proposed by the CAISO, be settled using a weighted average of all of its generation LMPs.

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- 1 The selection of the precise weighting factors will be based on consideration of the following
- 2 criteria:
- 3       ➤ Accurate representation of the average LMP price paid to generation within the zone;
- 4       ➤ Ability to attain CRRs to and from an EZ Generation Hub;
- 5       ➤ Hub price stability; and Simplicity and transparency. The CAISO plans to initiate a
- 6 stakeholder process later this year to further develop the precise formula for calculating EZ
- 7 Generation hubs.

# **Attachment B**

## **Notice of Filing**



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Comment Date: \_\_\_\_\_

**Certificate of Service**

I hereby certify that I have this day served a copy of this document upon all parties listed on the official service lists compiled by the Secretary in the above-captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010). Dated this 15<sup>th</sup> day of March in the year 2005 at Folsom in the State of California.

*Sidney Mannheim Davies/sdk*  
Sidney Mannheim Davies