UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	))	Docket No. ER04-928-___

PROPOSAL FOR HONORING EXISTING TRANSMISSION CONTRACTS UNDER THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION'S AMENDED COMPREHENSIVE MARKET DESIGN PROPOSAL

Filed: December 8, 2004

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December 8, 2004

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

Re: ***California Independent System Operator Corporation***

Docket No. ER04-928-___
Proposal For Honoring Existing Transmission Contracts Under The California Independent System Operator Corporation's Amended Comprehensive Market Design Proposal

Dear Secretary Salas:

Pursuant to Section 205 of the Federal Power Act ("FPA"), 16 U.S.C. § 824d, Section 35.13 of the Commission's regulations, 18 C.F.R. § 35.13, and Rules 212, 216, and 2008(a) of the Commission's Rules of Practice and Procedure, 18 C.F.R. §§ 385.212, 385.216, and 385.2008(a) (2004), the California Independent System Operator Corporation ("CAISO")[1] hereby submits for filing an original and six copies of its Proposed Conceptual Treatment of Existing Transmission Contracts[2] Under the CAISO's Amended Comprehensive Market Design Proposal ("ETC Proposal").[3] The CAISO requests that the Commission approve the ETC Proposal without modification by February 18, 2005.

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[1] 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.

[2] In the context of this filing, an Existing Transmission Contract ("ETC") is an encumbrance, established prior to the start-up of the CAISO, in the form of a contractual obligation of a CAISO Participating Transmission Owner ("PTO") to provide transmission service to another party, in accordance with terms and conditions specified in the contract, utilizing transmission facilities owned by the PTO that have been turned over to CAISO operational control pursuant to the Transmission Control Agreement ("TCA"). In some cases, the obligation to provide transmission service is specified within a more comprehensive contract that addresses other aspects of the relationship between the PTO and the other party. In such cases, *the ETC Proposal is intended to apply only to the transmission service aspect of the* contract. Finally, it is important to note that the only CAISO PTOs who have encumbrances of the type addressed in this ETC Proposal are Pacific Gas and Electric Company ("PG&E") and Southern California Edison Company ("SCE"). Generic references to PTOs in this filing refer only to these two entities.

[3] By its "Order On Rehearing Of The California ISO's Market Redesign," issued on September 20, 2004 in Docket No. ER02-1656, the Commission ruled that "any further development of the issues pertaining to ETCs will now proceed in Docket No. ER04-928." *California Independent System Operator Corporation*, 108 FERC ¶ 61,254, at P 78 (2004).

The CAISO requests that the Commission approve, without modification, the CAISO's conceptual proposal for honoring ETCs under the market redesign proposed in connection with the CAISO's Market Redesign and Technology Upgrade project ("MRTU"). The ETC Proposal, in its current form, is responsive to stakeholder input and addresses concerns that the Commission has raised in previous orders. To facilitate the Commission's review of the ETC Proposal, the CAISO's filing is comprised of two primary components – the ETC Proposal itself and the instant Transmittal Letter. The ETC Proposal, which is contained in Attachment A, sets forth the specific, conceptual ETC-related market design elements for which the CAISO seeks Commission approval.[4] In particular, the ETC Proposal specifies how the CAISO will accommodate and honor the transmission components of ETCs under the new market design.[5] Attachment A is structured to be a comprehensive, self-contained conceptual statement of the CAISO's proposed treatment of ETCs under the market redesign. This Transmittal Letter, *inter alia*, (1) provides justification and shows the need for the CAISO's ETC Proposal, (2) describes proposed modifications to the CAISO's prior ETC proposal filed on July 22, 2003 that address stakeholder concerns, (3) demonstrates how the ETC Proposal fully honors and does not abrogate or diminish any ETC rights, and (4) identifies the alternatives the CAISO considered for purposes of accommodating ETCs.

In an Order issued on October 28, 2003 in Docket No. ER02-1656, the Commission addressed the CAISO's proposed treatment of ETCs under the market redesign, as reflected in the CAISO's Revised Comprehensive Market Design Proposal that was filed on July 22, 2003. The Commission stated that

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4 Similar to the approach the CAISO has followed with respect to other elements of its proposed market redesign, the CAISO is seeking conceptual approval of its ETC Proposal prior to submitting detailed Tariff language.

5 In presenting this ETC Proposal to the Commission, the CAISO makes an important distinction between ETCs and Transmission Ownership Rights ("TORs"). The ETC Proposal addresses ETCs only; it does not address TORs. The ETCs addressed by this proposal are existing contractual encumbrances of the CAISO Controlled Grid turned over to CAISO Operational Control by PTOs. In contrast, TORs are existing contracts that establish joint ownership or direct ownership of transmission facilities that are within the CAISO Control Area and that have not been turned over to CAISO Operational Control. Although the CAISO may have an explicit role in the operation of TOR facilities as the Control Area Operator, the CAISO has little or no ability to control these facilities or to determine scheduling practices over such facilities. The California Oregon Transmission Project ("COTP") is one TOR facility currently located within the CAISO Control Area. In the Commission's October 28, 2003 Order, the CAISO was directed to provide additional justification for the different treatment the CAISO was proposing for COTP and other TORs vis-à-vis the treatment the CAISO was proposing to accord ETCs. Different treatment, if necessary to fully respect TORs, may be justified based on the distinction in ownership of these facilities, *i.e.*, PTO versus non-PTO ownership. However, this filing does not address what different treatment may be appropriate. Once the CAISO develops a final proposal regarding the treatment of TORs, the CAISO intends to submit a TOR proposal to the Commission. Thus, in considering the instant filing, the Commission should recognize that the proposal applies only to ETCs and should defer any decision regarding the treatment of TORs until after the CAISO submits its filing on TORs.

> [I]f the CAISO is able to demonstrate that its proposal will continue to allow it to redispatch resources and to accommodate valid real-time ETC schedule changes, without interfering with existing contractual rights, then its proposal may be workable and acceptable.

California Independent System Operator Corporation, 105 FERC ¶ 61,140, at P 201 (2003) ("October 28 Order"). In accordance with the Commission's October 28 Order, the CAISO is making the instant filing for the primary purpose of demonstrating that its ETC proposal does not abrogate or diminish the existing contractual rights of ETC rights holders. Given the Commission's prior recognition of the merits of the CAISO's proposed treatment of ETCs – and given the ETC Proposal does not abrogate or diminish any existing contractual rights – the Commission should accept the ETC Proposal without modification.

Further, as a result of the stakeholder process that has occurred subsequent to the Commission's October 28 Order, the CAISO has made certain modifications to the ETC proposal that it filed as part of its Amended Comprehensive Market Design Proposal on July 22, 2003 ("July 2003 Filing"). Those modifications are described below and reflected in the revised ETC Proposal set forth in Attachment A. The CAISO must reiterate, however, that the instant ETC Proposal is a conceptual filing similar to the previous CAISO conceptual filings related to the market redesign effort. As such, the filing provides the framework, but does not specify all of the details that will ultimately be included in the CAISO's filed MRTU Tariff. Some stakeholders are concerned about knowing all of the details, particularly with respect to the allocation and settlement of specific CAISO charge types beyond the congestion charges addressed by this proposal, (*e.g.*, transmission losses). Subsequent to the instant filing and in the course of preparing its comprehensive Tariff filing for the redesigned CAISO markets, the CAISO intends to conduct further activities with stakeholders to develop the additional details of its ETC Proposal. Thus, the Commission should not delay ruling on the instant filing merely because such filing does not specify all such details regarding the treatment of ETCs.

Commission approval of the ETC Proposal on a conceptual basis, without significant modification, will permit the CAISO to proceed expeditiously with development of the software and systems required to implement the market redesign. In order for the CAISO to meet the proposed February 2007 implementation date for the market redesign, it is imperative that the Commission issue an order approving the ETC Proposal on a conceptual basis by February 18, 2005. Critical software development activity with key vendors is set for completion in the first quarter of 2005, and ETC functionality must be incorporated by this time for inclusion in subsequent testing stages. The current development and testing schedules established by the CAISO and its vendor contemplate treatment of ETCs ultimately approved by the Commission will substantially remain as proposed herein. Accordingly, any significant departure from the preferred solution, *i.e.*, the specific elements of the ETC Proposal, could have an impact on the overall MRTU project schedule. In particular, a Commission order that requires the CAISO to "set-aside" transmission capacity for ETCs from the Day-Ahead through Real-Time, beyond that proposed in the instant filing, will have a negative impact on the overall development and testing schedule for the market redesign because significant additional functionality will need to be specified, developed and tested to integrate with systems that are already under development. As previously noted, Commission approval of the ETC Proposal on a conceptual basis will not preclude continued detailed work with stakeholders on some of the cost-related issues not addressed in this proposal, such as the treatment of losses. These issues will ultimately be addressed in the MRTU tariff to be filed during 2005. The CAISO anticipates that it will be able to accommodate any resolution of the remaining cost issues in its software after the Commission rules on the MRTU tariff filing without any significant impact on the software design or the implementation schedule.

I. EXECUTIVE SUMMARY

The importance of the instant filing cannot be overstated. The treatment of ETCs is a significant component of the new market design, and the method for honoring ETCs that is ultimately approved by the Commission and implemented by the CAISO can have a significant impact on the CAISO's markets and on grid operations. As such, it is imperative that the treatment of ETCs be compatible with the new market design, promote efficient markets and not add undue complexity in operation of the full network model ("FNM")-based forward and Real-Time market optimization.

To address the issues associated with ETCs under the new market design, the CAISO has engaged in an extended and extensive stakeholder process. A fundamental underpinning of the CAISO's position from the very beginning of, and throughout the entire market redesign process, has been that the transmission component of ETCs will be honored fully under MRTU. To that end, the CAISO's ETC Proposal fully honors all ETCs and, in particular, ETC scheduling rights without regard to the existence or nonexistence of *Mobile Sierra* clauses in the ETCs and does so in the most efficient manner compatible with the market redesign. Indeed, the CAISO is proposing to afford more favorable treatment to ETCs than the treatment accorded to existing contracts by other independent system operators.

When the CAISO first filed its Comprehensive Market Design Proposal on May 1, 2002, the CAISO assumed that today's practice of "setting-aside" transmission capacity in the inter-Zonal interfaces for ETCs could be applied in a straightforward manner to a new market design based on the Locational Marginal Pricing ("LMP") paradigm. Subsequent to that filing, however, the CAISO assessed the operational and market implications of "setting-aside" transmission capacity on a fully accurate network model under a congestion management approach that enforces all line limits, and found this approach to be problematic. In the process of developing the Amended Comprehensive Market Design Proposal that was filed on July 22, 2003, *i.e.*, the July 2003 Filing, the CAISO ultimately concluded that "setting aside" transmission capacity in the Day-Ahead market under a full network model and withholding such capacity practically up until Real-Time would not be the best approach for honoring ETCs (and operating the transmission grid and CAISO markets) under MRTU. "Setting-aside" such capacity is not compatible with the efficient use of transmission and a congestion management design that models and enforces all constraints in a full network model in the forward markets and in Real-Time. Although not theoretically impossible, capacity "set-asides" on the full network model would add significant complexity to the operation of the CAISO markets and the transmission grid under MRTU. Moreover, such "set-aside" of capacity will increase the complexity and cost of the new MRTU software and systems, thereby potentially extending the MRTU implementation schedule. In addition, capacity "set-asides" on the internal CAISO transmission network would, on a day-to-day basis, materially increase energy costs to California consumers. With regard to the last point, a CAISO study indicates that "setting aside" unscheduled ETC capacity on the internal transmission network in the Day-Ahead for the sole use of ETC rights holders could increase costs to California consumers by an order of magnitude of at least tens of millions of dollars annually.

The reason for this economic impact is that transmission capacity that is "set aside" on a fully detailed network model actually permeates the entire network regardless of the specific injection and withdrawal points designated under the ETC. This is consistent with the way electricity actually flows over an integrated network, which is the fundamental reason for implementing a market design that utilizes a full network model for forward scheduling and congestion management. As a result, "setting-aside" transmission capacity on the internal network under MRTU would have adverse impacts on CAISO transmission and market efficiency, on consumers, and on the MRTU project itself. No other independent system operator has "set-aside" unscheduled ETC capacity under a full network model-based LMP market design, and the CAISO has no such experience. If the Commission were to require the CAISO to "set aside" ETC capacity beyond the level proposed herein, implementation of MRTU would be potentially delayed, and neither the transmission system nor the proposed market would be efficiently used. In that regard, the MRTU implementation schedule established by the CAISO and its vendor contemplates that the Commission will approve the ETC Proposal in a timely manner and without significant modification.

During the course of the stakeholder process in which various options were evaluated, the CAISO realized that capacity "set-asides" for ETCs of a limited nature would be possible without the deleterious impacts described above. Based on this assessment, the CAISO has concluded that the best approach to fully honor ETCs is to continue "setting aside" transmission capacity in the Day-Ahead market for unscheduled ETC rights only on the interties with external control areas, in a manner similar to how the CAISO treats unscheduled ETC capacity today. The impact of "setting-aside" capacity on these interties would be limited because the full network model represents such interties in a radial fashion, and the expected magnitude of such intertie capacity reservations is relatively small. This radial representation means that capacity can be "set aside" on the intertie facilities without affecting the rest of the CAISO transmission network. Therefore, the CAISO proposes to "set aside" unscheduled ETC capacity on the interties in the Day-Ahead market for those ETCs that provide scheduling rights at the interties and permit the ETC rights holder to submit schedule changes after the Day-Ahead market. Such "set aside" capacity will be withheld from the Day-Ahead market as it is today by reducing the Available Transmission Capacity ("ATC") on the relevant intertie for the relevant operating hour, by an amount equal to the amount of ETC rights on the intertie that were not scheduled by the ETC holder in the Day-Ahead Market. Such "unscheduled ETC capacity"[6] will be withheld from the market until the deadline specified in the particular ETC for making schedule changes elapses.[7]

It is important to note that the aforementioned modification applies only to ETC capacity on the interties. With respect to the transmission network within the CAISO Control Area (the "internal network"), including today's inter-Zonal interfaces (*i.e.*, Path 15 and Path 26), the CAISO will not "set aside" any additional transmission capacity for ETCs beyond what is scheduled in the Day-Ahead Integrated Forward Market ("IFM"). "Setting-aside" unscheduled ETC capacity on the internal network would have all of the adverse impacts described above and is not necessary to ensure that the CAISO can fully honor ETC transmission service rights without any diminution of those rights. Specifically, the CAISO can and will honor the transmission service requirements of ETCs that utilize internal network transmission by ensuring that valid post-Day-Ahead schedule changes are accommodated either in the Hour-Ahead Scheduling Process or in Real-Time through Real-Time re-dispatch of resources in the Imbalance Energy market.[8]

In making the distinction between ETC rights to utilize intertie transmission capacity versus ETC rights to utilize internal transmission, and applying the "set-aside" approach to the former but not the latter, the approach to ETC scheduling contained in this ETC Proposal is similar to how the CAISO accommodates ETC schedules today. Under today's zonal congestion management design, the CAISO "sets-aside" capacity for ETCs in the Day-Ahead market on the interties and on the internal inter-Zonal interfaces (Path 15 and Path 26), but does not set aside any capacity for ETCs on the rest of the internal network. Thus, with the exception of the different treatment of Path 15 and Path 26, the ETC Proposal handles ETC scheduling rights in a manner similar to today. The reasons why "setting aside" capacity on Path 15 and Path 26 is not necessary under MRTU in order to honor ETC transmission service rights are fully explained later in this document.

The proposed approach to honoring ETCs on the interties represents a change from the ETC proposal contained in the July 2003 Filing. In that filing, the CAISO proposed to honor all ETC rights without "setting aside" any unscheduled ETC capacity in the Day-Ahead market. However, during the subsequent stakeholder process, there was some opposition to the CAISO's prior proposal not to "set aside" unscheduled ETC

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6 "Unscheduled ETC capacity" on any given intertie in any given operating hour will be defined as the quantity of transmission capacity that is the difference between the ETC rights holder's maximum scheduling right under the contract for that intertie at that hour and its actual Day-Ahead schedule on the intertie for that hour.

7 If the ETC allows scheduling or schedule changes up to 20 minutes before Real-Time, then the "set-aside" will be through this time, consistent with today's practice.

8 Analogous to the priority given to ETC schedules submitted to the Day-Ahead IFM, valid ETC schedule changes submitted to the Hour-Ahead market will have priority over other Hour-Ahead submissions.

capacity in the Day-Ahead, and recent comments submitted to the CAISO were particularly focused on the issue of fully honoring ETC rights on the interties. The issues regarding whether the CAISO's original proposal honored ETCs centered on three areas: (1) whether the current "set aside" of capacity on the interties, is required to fully honor ETC rights on the interties; (2) whether the CAISO's proposed approach of accommodating valid ETC schedule changes in Real-Time via re-dispatch is viable; and (3) whether the CAISO's approach would impose costs on ETC rights holders that they did not otherwise have to pay.

With respect to the first item, some stakeholders argued that the CAISO's original proposal not to "set aside" unscheduled ETC capacity on the interties in the Day-Ahead would fail to fully honor ETCs. The revised ETC Proposal moots this concern. With regard to the second item, the CAISO concluded that its ability to fully honor valid post-Day-Ahead ETC schedule changes via re-dispatch was clearly viable on the internal network, but was less certain on the interties due to seams issues. With regard to the third item, the CAISO modified its prior proposal by developing a so-called "perfect hedge" settlement mechanism that will exempt valid ETC schedules and schedule changes from the Day-Ahead and Real-Time congestion charges. Thus, under the ETC Proposal, ETC rights holders will be held financially harmless with respect to the congestion charges that arise under the LMP design which is central to MRTU. The "perfect hedge" mechanism represents the second modification to the ETC proposal contained in the July 2003 filing that addresses concerns expressed by stakeholders regarding the original proposal.

The third and final modification to the July 2003 proposal addresses stakeholder concerns regarding the responsibility for validating ETC schedules, *i.e.*, ensuring that ETC schedules and schedule changes comply with the ETC holder's contractual rights. In particular, concern was expressed regarding the CAISO's proposal that the PTOs, as sellers of the ETC contracts, bear all responsibility for ensuring that ETC schedules comply with their contractual rights. Some parties argued that this would require day-to-day involvement by the PTO in the scheduling of ETC rights, an activity which, for many ETCs, the PTO is not involved in today. To address this concern without compromising the CAISO's concerns that motivated the CAISO's original proposal, the CAISO now proposes an automated procedure for verifying that submitted ETC schedules and schedule changes are consistent with the terms of the rights holders' contracts. The CAISO is offering this approach as a "middle ground" option that will relieve the PTOs of the day-to-day obligation to verify that ETC schedules are within the ETC rights holder's contractual rights without imposing a significant burden on the CAISO. Under the proposed approach, the CAISO will perform automated, day-to-day verification that submitted ETC schedules are within contractual rights, provided that the requisite data needed to serve as the basis for such automated verification has been provided by the PTO to both the CAISO and the ETC rights holder. This will allow any disagreements between the contracting parties concerning the specification of rights in the data file to be addressed by those parties outside of the CAISO's market operations.

In summary, the CAISO is proposing certain modifications to its July 2003 proposal for honoring ETCs under MRTU in order to address the concerns raised by stakeholders, but without compromising the objectives that motivated the original proposal. In particular, the CAISO proposes to (1) "set aside" unscheduled ETC capacity on the interties in a manner similar to its current approach, (2) implement a cost allocation scheme whereby ETC rights holders will not bear any Day-Ahead or Real-Time congestion costs associated with their schedules and schedule changes, and (3) perform automated verification that ETC schedules comply with contractual rights, based on verification data provided to the CAISO by the PTO sellers of these rights. The approach described in the instant filing will enable the CAISO to fully honor ETC rights, while maintaining the benefits of an efficient dispatch and avoiding potential delays in MRTU implementation and increased project costs.

The ETC proposal is just and reasonable for a number of reasons. First, the CAISO will be able to fully honor valid ETC schedules and schedule changes on the internal network without having to "set aside" unscheduled internal network transmission capacity because the CAISO will operate the entire transmission grid on an integrated basis and will, in the context of the Real-Time balancing market, have the ability to economically dispatch internal resources when and where necessary to accommodate valid ETC schedule changes. The CAISO essentially will be able to accommodate valid ETC schedule changes on the internal network just like it does today within the zones and in a manner similar to that employed by the PTOs prior to the formation of the CAISO. However, due to seams-related issues, the CAISO is less confident that it would be able to fully honor ETC post-Day-Ahead rights at the interties in all situations absent a "set-aside" of unscheduled ETC capacity on the interties. In that regard, the CAISO does not control dispatchable generation outside of California and, therefore, its ability to rely on re-dispatch to accommodate ETC schedule changes on the interties is more limited than on the internal network. Because the CAISO does not control generation at the interties, there is also some increased possibility that the CAISO would have to curtail non-ETC schedules on the interties in order to accommodate post-Day-Ahead ETC schedule changes. On the other hand, the Real-Time Imbalance Energy market provides the CAISO with the dispatch control over internal resources that is necessary to mitigate congestion on internal paths and balance the system, while honoring valid ETC schedule changes.

Second, the cost impact to the market of "setting aside" ETC capacity on the interties is anticipated to be much smaller than the impact of "setting aside" capacity on the internal network. Thus, from a market impact standpoint, the CAISO's proposal honors ETC scheduling rights in a manner that is both economically efficient and consistent with the LMP congestion management design.

Third, the "perfect hedge" proposal will ensure that ETC right holders are held financially harmless with respect to all LMP-related congestion charges, both in the Day-Ahead market and in Real-Time. Thus, the ETC Proposal as set forth herein will fully honor ETC contracts both from a service standpoint and a cost standpoint. There will be no diminution of service or increased costs for ETCs.

Fourth, the automated ETC schedule validation procedure that the CAISO proposes herein will provide a means for the CAISO to perform the required day-to-day validation function, while still holding the contract seller, *i.e.*, the PTO, responsible to provide accurate validation criteria in the form of a data file compatible with the CAISO's automated procedure.

For the reasons set forth herein, the Commission should expeditiously approve the instant ETC Proposal without modification.

II. BACKGROUND

A. Procedural History

1. May 1, 2002 Filing

On May 1, 2002, the CAISO filed its Comprehensive Market Design Proposal based on the Locational Marginal Pricing ("LMP") paradigm. At that time the CAISO acknowledged that the treatment of ETCs under the market redesign did not have a completely satisfactory resolution. The CAISO stressed the importance of allocating transmission to all grid users through a single congestion management and Financial Transmission Rights ("FTR")[9] scheme, according to a single set of rules and a common scheduling timeline as part of LMP. The CAISO recognized that accomplishing this objective would require converting all ETCs to FTRs, thereby eliminating the need for separate scheduling provisions. The CAISO indicated its commitment to work with ETC rights holders to find acceptable terms for conversion of ETCs to FTRs compatible with the CAISO's proposed scheduling time line. The CAISO recognized, however, that some quantity of ETCs probably would continue to exist in their present form at the time the CAISO implements the new market design. Accordingly, the CAISO's proposed FTR design and the process for the release of FTRs included provisions for transmission capacity to be set aside for non-converted ETCs as well as for ETCs to convert to FTRs.

On June 17, 2002, as supplemented on June 28, 2002, the CAISO submitted Tariff provisions for the Integrated Forward Market ("IFM") and LMP market redesign elements.

On July 17, 2002, the Commission issued an order in which it accepted, rejected and modified, in part, the CAISO's May 1 Filing.[10] The Commission ruled on the merits of the "Phase I" elements of the Comprehensive Market Redesign Proposal, which did

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9 In the CAISO's July 22, 2003 Amended Comprehensive Market Design filing, the CAISO adopted the term "Congestion Revenue Rights" ("CRR") to avoid any confusion between the rights being issued under the proposed LMP market design and the CAISO's "Firm Transmission Rights" ("FTR") that exist today under the zonal market design.

10 *California Independent System Operator Corporation,* 100 FERC ¶ 61,060 (2002) ("July 17 Order").

not include either the IFM or LMP. Although the Commission did not rule on the merits of the IFM and LMP elements, the Commission directed the CAISO to expedite implementation of the IFM and authorized the CAISO to expend funds for the development of LMP and the "Full Network Model" ("FNM"), but determined that the specifics of implementation of those elements should be addressed in technical conferences established by the July 17 Order.

2. July 22, 2003 MD02 Filing

On July 22, 2003, the CAISO filed an Amended Comprehensive Market Design Proposal which included a revised proposal for the treatment of ETCs under the new market design. Under the CAISO's revised proposal, ETCs would continue to have their traditional scheduling priority in the Day-Ahead IFM, but the CAISO would not reserve any additional transmission for them beyond the amount that was scheduled in the Day-Ahead IFM. This revision was proposed because the CAISO recognized, in the course of developing the July 22, 2003 filing, the substantial market impacts and additional MRTU system complexity that would result from a capacity-reservation approach in the context of a FNM-based LMP market design. Under the CAISO's revised proposal, ETC schedule changes in the Hour-Ahead IFM would have priority over other Hour-Ahead submissions and would be accommodated in final Hour-Ahead schedules to the extent they did not require modification to final Day-Ahead schedules. To the extent any Hour-Ahead ETC schedule change could not be fully accommodated in the Hour-Ahead IFM, such schedule change would be accommodated in Real-Time through Real-Time re-dispatch of resources. As proposed by the CAISO, ETC schedules would generally be subject to the appropriate Real-Time charges associated with the market to which they were submitted, including congestion charges and uninstructed deviation penalties. In addition, the CAISO proposed that PTOs (or another designated and capable SC) be responsible for ensuring on a day-to-day basis that submitted ETC schedules comply with the contractual rights of the ETC rights holders. Because these changes to current practice with respect to ETCs might expose PTOs or other SCs to additional costs, the CAISO requested that the Commission make it clear in its order on the CAISO's proposal that these entities would be permitted to recover their prudently incurred costs associated with managing ETCs.

3. October 28, 2003 Order

On October 28, 2003, the Commission issued a "Further Order On The California Comprehensive Market Redesign Proposal." *California Independent System Operator Corporation*, 105 FERC ¶ 61,140 (2003) ("October 28 Order"). In its October 28 Order, the Commission approved in principle many of the conceptual market design elements submitted by the CAISO as part of its Amended Comprehensive Market Design Proposal. The Commission also provided guidance as to other issues and sought additional explanation of and information regarding other elements. The Commission emphasized that its October 28 Order provided guidance only and that the order was advisory in nature. Accordingly, the Commission stated that the parties would be permitted to revisit the issues addressed by the Commission *de novo* after the CAISO files its comprehensive tariff. October 28 Order at P 2.

In its October 28 Order, the Commission offered guidance on the outstanding ETC issues. The Commission stated its preference that "phantom congestion" should be overcome to the maximum extent possible in a way that is consistent with contractual rights. To that end, the Commission indicated that the CAISO's proposal might be "workable and acceptable" if the CAISO were able to demonstrate that its proposal would accommodate valid real-time ETC schedule changes without interfering with existing contractual rights. October 28 Order at P 201. The Commission found, however, that the CAISO's ETC proposal lacked necessary details and expressed concern that the proposal might alter the rights of ETC holders if deviations to schedules submitted by ETC holders cannot be accommodated. *Id.* In that regard, the Commission stated that the extent to which it is possible that scheduling changes submitted by ETC holders could not be accommodated was not presently known. The Commission noted that the CAISO's proposal was more descriptive and theoretical and that more detailed evidence was needed regarding the magnitude of the problem the CAISO was seeking to address, and the likely consequences of implementation of the proposal, including any potential variations in costs. *Id.*

The Commission, as an initial step, required the CAISO to conduct further analysis of the proposal to demonstrate the likelihood of ETC holders experiencing a diminution of contractual rights if the revised scheduling process is adopted and to present the results of this analysis to market participants and interested parties for further consideration and discussion. October 28 Order at P 202. The Commission stated that it would be in a position to provide a definitive ruling on the ETC proposal only after further details of the proposal have been developed and submitted for its consideration.

Finally, the Commission stated that it was reluctant to allow an exception to the general rule regarding ETC scheduling for ETC transactions on the California Oregon Transmission Project ("COTP"). October 28 Order at P 204. The Commission believed that, on its face, the exception proposed by the CAISO for the California Oregon Transmission Project might be regarded as discriminatory. The Commission required that, as part of the further development and consultation, the CAISO undertake a further analysis of this element of the ETC proposal, and demonstrate that the different treatment of ETCs on the COTP, as proposed by the CAISO, is not unduly discriminatory.

4. June 17, 2004 Order

On June 17, 2004, the Commission issued an "Order On Further Development Of The California ISO's Market Redesign And Establishing Hearing Procedures."[11] In its June 17 Order, the Commission provided guidance on seven outstanding issues that had been discussed in a series of technical conferences held during the winter of 2004. In

[11] *California Independent System Operator Corporation*, 107 FERC ¶61,274 (2004) ("June 17 Order").

addition, the Commission instituted further procedures to address other outstanding issues, *including the outstanding* ETC issues.

In its June 17 Order, the Commission acknowledged that, on March 5, 2004, the CAISO had posted on its website a White Paper regarding the development of its proposal for dealing with ETCs.[12] The Commission recognized that, in the March 5 White Paper, the CAISO had started to address the issues raised by the Commission in the October 28 Order, including an analysis of the likelihood of diminution of ETC rights and consequence of implementation. The Commission directed the CAISO to inform the Commission within 15 days of the date of issuance of the order of (1) any updates to its proposed stakeholder process (from that set forth in its March 5 White Paper) and (2) the timeline for resolving the ETC issue such that tariff language would be filed by the end of December 2004.

In addition, so that the Commission would have a full record before it on which to base its decision on the CAISO's ETC proposal, the Commission directed public utility parties providing service under ETCs to file the following information in Docket No. ER04-928-000: (1) the name of the entity responsible under the contract for scheduling the contract; (2) the type of agreement, *e.g.*, point to point, system integration; (3) the source point(s) applicable to the ETC; (4) the sink point(s) applicable to the ETC; (5) the maximum number of megawatts transmitted pursuant to the ETC for each set of source and sink points; (6) whether any modification to the ETC is subject to a "just and reasonable" standard of review or a *Mobile-Sierra* "public interest" standard of review; (7) the contract termination date; and (8) the FERC designation for the contract, if applicable. Parties filed this ETC information on July 23, 2004. Many parties also submitted narrative pleadings along with the requisite contract information. These narratives, *inter alia*, discussed the substance of various ETC arrangements.

B. Stakeholder Process

The CAISO conducted an extensive stakeholder process on ETC-related issues. The CAISO initiated the stakeholder process on March 5, 2004, when the CAISO posted on its website a White Paper regarding the development of its proposal for dealing with ETC issues. The White Paper provided background on the CAISO's July 22, 2003 ETC proposal in the context of the market redesign as a whole, explained the CAISO's rationale for the July 22, 2003 ETC proposal, and set forth the CAISO's initial ideas regarding the issues to be discussed in the ensuing ETC stakeholder process. The March 5 White Paper *identified the following issues as the primary issues to be addressed* in this stakeholder process: (1) demonstration that the CAISO proposal fully honors ETC rights; (2) responsibility for scheduling ETCs and validating ETC schedules; (3)

[12] CAISO White Paper "Proposal for Honoring Existing Transmission Contracts" March 5, 2004 ("March 5 White Paper"). Market Participants filed comments with the CAISO on March 29, 2004 in response to its White Paper.

allocation and recovery of costs related to ETC scheduling; and (4) the need for special provisions for transmission ownership rights.[13]

Thirteen stakeholders submitted comments on the March 5 White Paper. Several parties argued that the CAISO's proposal, which essentially reflected the elements contained in the July 22, 2003 filing, violated ETCs because existing rights would not be honored, and ETC rights holders would face increased costs. Some parties urged development of a "Recallable Transmission Service" ("RTS") as an alternative to the CAISO's proposed treatment of ETCs. PTOs also raised concerns about (1) the ETC validation process proposed by the CAISO and the day-to-day burden it would impose on them, and (2) their risk of cost recovery for managing ETCs under the CAISO's July 22, 2003 proposal.

To address the issues raised by stakeholders, the CAISO held six face-to-face meetings with stakeholders. In addition to explaining the elements of the CAISO's proposal and addressing the various issues raised by stakeholders, the stakeholder meetings included the following: (1) public discussion with Southern California Edison Company ("SCE") and Pacific Gas and Electric Company "PG&E") regarding the way ETCs were managed by the PTOs[14] prior to the operation of the CAISO; (2) a presentation by the staff of the Midwest Independent Transmission System Operator ("MISO") regarding details of MISO's three options for the treatment of grandfathered agreements ("GFAs") within the MISO footprint under MISO's proposed tariff; (3) extensive discussion about the difficulties the CAISO would face in creating a Recallable Transmission Service and a review of the history of a Section 206 complaint filed in 2001 by Morgan Stanley;[15] (4) discussion of an alternative proposed by the Automated Power Exchange ("APX"); (5) a conference call with Andy Ott, Vice President of Market Services at PJM, that allowed stakeholders to understand that PJM does not offer a RTS comparable to what CAISO stakeholders were advocating, and that the "non-firm" transmission product offered by PJM would have no applicability to the ETC issues at hand.[16]

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[13] The CAISO also held a conference call with stakeholders on March 12, 2004 to respond to questions regarding the White Paper. The March 5 White Paper and all documents that the CAISO distributed as part of the ETC stakeholder process can be found on the CAISO's website at: http://www.caiso.com/docs/2004/04/26/2004042611374825300.html

[14] As noted earlier, SCE and PG&E are the only two CAISO PTOs who have sold contractual rights to transmission service of the type addressed in this ETC Proposal.

[15] The filing of the Morgan Stanley complaint led to a CAISO and stakeholder effort to examine the feasibility of creating a recallable transmission product. That process ended with the identification – but not resolution – of some thorny design and cost allocation issues.

[16] Non-firm transmission in the PJM system must either become firm or be cancelled prior to the PJM day-ahead market, and therefore is not a useful model for addressing the CAISO ETC issues. To be specific, the RTS advocated by CAISO stakeholders would be intended to reserve capacity for post-Day-Ahead scheduling by ETC holders, and therefore would have to remain "non-firm" past the Day-Ahead IFM up to the time that ETC scheduling privileges expire, *i.e.*, 20 minutes prior to the start of each

On September 20, 2004, the CAISO posted on its website a Revised White Paper that sought to summarize the results of previous stakeholder meetings and provide further details on the CAISO's proposal. In particular, the Revised White Paper contained modifications to the July 22, 2003 ETC proposal pertaining to cost allocation and validation of ETC schedules. These modifications, which are described in greater detail *infra* in Section IV, addressed two of the main concerns raised by stakeholders, *i.e.*, that the CAISO's prior proposal would improperly impose additional costs on ETC rights holders and unduly burden PTOs with respect to the validation of ETC schedules. In the Revised White Paper, the CAISO unveiled its "perfect hedge" settlement mechanism and proposed the automated procedure to validate that submitted ETC schedules comply with their contractual rights. Under the "perfect hedge" mechanism, the CAISO would reverse all congestion charges, both Day-Ahead and Real-Time, incurred by ETC rights holders as a result of ETC schedules and schedule changes. The CAISO also invited written comments on the Revised White Paper.

Numerous parties submitted comments on the Revised White Paper. A summary of these comments is provided in Attachment B. Of the 15 comments received, half supported the CAISO proposal generally or limited their comments to supporting the "perfect hedge" proposal. Several parties also submitted comments on the CAISO's ETC proposal to the CAISO's Market Surveillance Committee ("MSC") to aid in the development of an MSC opinion on the ETC issue.

Several stakeholders objected to the CAISO's proposal – as set forth in the July 22, 2003 filing and reiterated in the Revised White Paper – not to "set aside" unscheduled ETC capacity in the Day-Ahead on either the interties or the internal network and to withhold such capacity from the market until 20 minutes before Real-Time. They argued that such proposal failed to honor ETC rights to service. In particular, the comments from the municipal utilities community focused on the CAISO's proposal not to "set-aside" unscheduled ETC capacity on the interties. They argued that such proposal would abrogate ETC scheduling rights at the interties. *See* California Municipal Utilities Association Comments at 2; Transmission Agency of Northern California Comments at 3; Los Angeles Department of Water and Power Comments at 4-6.

However, comments submitted by certain of the municipal utilities recognized that there might be a valid distinction between the interties and internal transmission that potentially would justify different treatment for purposes of "setting aside" unscheduled ETC capacity. TANC Comments at 3; CMUA Comments at 2. Comments also acknowledged the CAISO's analysis that the "set-aside" of unscheduled ETC capacity in the Day-Ahead is most problematic with respect to transmission facilities within the CAISO Control Area, and less so for the interties that are modeled radially in the FNM. CMUA Comments at 2; TANC Comments at 3. For example, TANC stated that "[t]he CAISO has indicated and technical information supports that reservation of ETC capacity is most problematic for network transmission rights that are not radial transmission

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operating hour for some ETCs. No other independent system operator operating a LMP market offers such a product.

facilities."[17] The CAISO agrees that, under MRTU, it is more problematic to "set-aside" capacity on the internal network than on the interties. On the internal network, it is more efficient and consistent with the MRTU design to re-dispatch resources, if necessary, to accommodate ETC schedule changes.

The CAISO's ETC Proposal addresses the concerns raised by the municipal utilities regarding the CAISO's treatment of ETC schedules on the interties. The Proposal also recognizes the legitimate reasons for treating ETC schedules on the interties differently than ETC schedules on the internal network. As indicated above, under MRTU the CAISO now proposes to continue its existing practice of "setting-aside" unscheduled ETC capacity on the interties. However, as discussed in greater detail herein, the CAISO is not proposing to "set-aside" unscheduled ETC capacity on the internal network because (1) it is not necessary to do so to honor ETCs, (2) it would have significant adverse consequences on the market, as well as add undue complexity to market operations, (3) would increase MRTU project costs, and (4) would potentially delay MRTU implementation.

C. Market Surveillance Committee Opinion On The Treatment Of ETCs

On November 16, 2004, the CAISO's Market Surveillance Committee ("MSC") also issued an opinion regarding the CAISO's ETC Proposal. The MSC opinion, entitled *Opinion on the California ISO's Proposal for Honoring Existing Transmission Contracts (ETCs) Under the Market Redesign and Technology Upgrade (MRTU)* ("ETC Opinion") is attached hereto in Attachment C. The MSC solicited input from stakeholders in the process of developing its opinion, and several stakeholders submitted written comments to the MSC. The MSC also held a public conference call with stakeholders to discuss the CAISO's treatment of ETCs. The MSC Opinion concludes that, "given the imperative to honor pre-existing contracts, the CAISO's hybrid approach to honoring ETCs under MRTU is perhaps the best possible compromise between honoring pre-existing arrangements and capturing the benefits of the ISO's proposed market redesign." MSC Opinion at 1.

III. NEED FOR A NEW METHOD FOR HONORING ETCS UNDER THE NEW MARKET DESIGN

A. The CAISO's Existing Treatment of ETCs

There are two main aspects of the CAISO's current treatment of ETCs – a scheduling aspect and a settlement aspect – whereby ETCs schedules are accorded different treatment than the treatment accorded other schedules. With respect to scheduling, since start-up the CAISO has accommodated ETCs by (1) "setting-aside" transmission capacity on interties and inter-zonal interfaces on a Day-Ahead basis for the

[17] TANC also alleged that the CAISO had not "properly recognized this important distinction" between capacity "set-asides" on the interties and capacity "set-asides" on network transmission facilities. TANC Comments at 3.

sole use of ETC rights holders, and (2) holding that capacity off the market, irrespective of whether or not it was fully scheduled by the ETC rights holders, up until 20 minutes before the start of the operating hour. As discussed in greater detail *infra*, the practice was unilaterally developed by the CAISO as a simple (*i.e.*, not burdensome) means of accommodating ETCs and, in particular, accommodating Hour-Ahead and last-minute schedule changes by ETC rights holders. The CAISO currently performs this procedure of "setting-aside" transmission capacity for ETC rights holders by reducing the Available Transfer Capacity ("ATC") on all Control Area inter-tie points and on the internal inter-zonal interfaces (*i.e.*, Path 15 and Path 26), thereby limiting the amount of non-ETC schedules the CAISO can accept in the forward markets. Under today's zonal congestion management approach in the forward markets, the CAISO does not "set-aside" transmission capacity for un-scheduled ETC rights within congestion zones.

It is important to note that the feasibility of the current scheduling aspect of ETCs depends on the simplicity of today's zonal congestion management approach. In that regard, there are three congestion zones within the CAISO grid, and the only transmission pathways that are managed in the forward markets (*i.e.*, on which capacity is allocated in the forward scheduling process and usage charges assessed when there is congestion) are the "inter-zonal" interfaces. There are over 30 inter-zonal interfaces – two that connect the three internal zones in a radial or linear fashion, and the rest that connect the CAISO Controlled Grid to adjacent control areas. Constraints on the remaining 6000 or so transmission pathways under the CAISO's operational control are completely ignored in the forward markets. Thus, it is a relatively simple task to "derate" each of these pathways independently, without regard to one another or to any other grid facility, in order to preserve the option for ETC holders to use, or not use, the "set-aside" capacity in a subsequent market. However, now that the CAISO proposes to move from a zonal market design to the LMP congestion management approach, which will respect constraints on all 6000 lines in the forward markets, there are several reasons why it is necessary to for the CAISO to change its approach to managing ETCs. These reasons, which are discussed in greater detail below, form the basis for the CAISO's ETC Proposal.

With respect to the settlement aspect of the current procedure for honoring ETCs, ETC schedules are exempt from all transmission Access Charges, the Congestion Management component of the Grid Management Charge ("GMC") and any Usage Charges for congestion.[18] Currently ETC schedules are not exempt from losses. As noted earlier, the ETC Proposal specifically addresses forward and Real-Time congestion charges – expected to account for the largest dollar share of the assessed costs – through the "perfect hedge" mechanism. The ETC Proposal does not address the other CAISO settlement charges. It is the CAISO's intention to continue the stakeholder process on

[18] The payment of GMC is contingent upon settlement agreements. The 2004 GMC settlement agreement in Docket No. ER04-115-000 provides that COTP participants shall not pay the GMC, and holders of existing rights on the Mohave-Eldorado line pay 60% of some components.

this aspect of the treatment of ETCs in the process of developing the MRTU Tariff filing.[19] This process will occur in 2005.

B. The Impact of "Setting Aside" Unscheduled ETC Capacity Under The New Market Design

1. General Issues Raised By "Setting Aside" Unscheduled ETC Capacity Under The Full Network Model

Having different sets of rules pursuant to which market participants can schedule service on the CAISO-Controlled Grid – one set for ETC rights holders and a different set for the rest of the market – can undermine the efficient allocation of capacity on and use of the grid. One major reason for this is that disparate rules, particularly differences in required scheduling timelines, tend to create systematic inconsistencies in transmission availability and pricing between forward and Real-Time markets. Today, the different treatment accorded ETCs vis-à-vis other grid users is one contributor to such inconsistencies, but the largest contributing factor to inconsistency across market time frames is today's zonal market design which ignores transmission constraints in the CAISO Control Area in the forward markets that must be respected in Real-Time to avoid facility constraints. A primary objective of the MRTU market redesign is to fix such inconsistencies so that forward market allocation and pricing of transmission will be consistent across market time frames, thereby supporting and enhancing reliable Real-Time operations. The use of an accurate FNM and enforcement of all constraints, in forward congestion management as well as in Real-Time operation, will be the primary vehicle for achieving this objective.

Moving from today's zonal forward congestion management approach to one based on the FNM is an extremely dramatic change that requires a comprehensive redesign of virtually all aspects of the CAISO's markets. In particular, all aspects of the redesigned markets need to support the primary objective of consistency between the Day-Ahead and Real-Time market time frames. At the same time, the CAISO recognizes that perfect consistency is an ideal that may not be fully achievable, and that there are some valid reasons for accepting less than perfect consistency to achieve other objectives. Honoring the rights of ETC rights holders is one such reason, and the CAISO is fully committed to honoring such ETC rights in the context of the MRTU market design. However, it is imperative for the overall success and effectiveness of the MRTU design, that the CAISO honor ETC rights in a manner that minimizes the adverse impact on the primary MRTU design objectives. Therefore, it is crucial to distinguish between the general principle of honoring the transmission component of ETC rights and the actual mechanism employed to honor such rights. In particular, it is important to recognize that the procedure for honoring ETCs that exists today, and which was implemented upon

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19 The CAISO anticipates that ETC schedules will continue to be exempt from access charges in an LMP environment. However, the MRTU proposal does not address the structure of the GMC under the new market design. Consistent with previous changes to the GMC, the structure of the GMC under LMP will be subject to a separate and extensive stakeholder process and a separate GMC filing with the Commission.

CAISO start-up, is just one possible mechanism – but not the only one – for honoring ETC rights.

In thinking through the various aspects of a FNM-based congestion management approach, and in the course of the stakeholder process that was conducted between the CAISO's initial market redesign filing in May 2002 and the amended proposal filed in July 2003, the CAISO realized that today's procedure of "setting-aside" unscheduled ETC capacity in the forward markets would be the most problematic aspect of trying to apply the existing mechanisms for honoring ETCs in the context of LMP. If the CAISO were to "set-aside" unscheduled ETC transmission capacity on the internal network within the CAISO Control Area under the new market design, the CAISO would have to do the following: (1) model all ETC rights – including those that are completely internal to the CAISO system, not just those that utilize the inter-zonal interfaces – in terms of specific sources and sinks relative to the FNM; (2) perform a simultaneous feasibility assessment to determine the collective utilization of grid capacity by ETC rights holders and then withhold this capacity in the form of CRR Options from the CRR release process; and (3) calculate, **every day**, the collective grid capacity that must be withheld from the markets **for each operating hour** due to ETC rights that were not scheduled in the Day-Ahead, and then remove this capacity from the grid prior to running the IFM.

Step (1), the modeling of ETCs in a source-to-sink format, will be needed no matter how the CAISO honors ETCs, and is not in itself problematic. However, Step (2) will have a significant impact on the availability of CRRs to non-ETC parties. Preliminary evidence of this impact can be gleaned from the CAISO's "CRR Study 1" which was completed and published in October 2003,[20] and a subsequent sensitivity analysis performed in December 2003.[21] In these studies, the CAISO assessed the availability of CRRs for allocation to load-serving entities ("LSEs") to hedge congestion charges when the full network model is used as the basis of the LMP market design. A comparison of the two analyses indicated that the CAISO's ability to fulfill the requests of eligible parties for CRRs would be 30 to 40 percent greater if ETCs are accommodated without "setting aside" transmission capacity than if the "set-aside" approach is used.[22]

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20 This report and graphical representations of the results of "CRR Study 1" are posted on the CAISO website at http://www.caiso.com/docs/2003/12/15/2003121514062310939.pdf.

21 The report and graphical results of this sensitivity analysis are posted on the CAISO website at http://www.caiso.com/docs/2003/12/15/2003121514062310939.pdf.

22 In CRR Study 1, ETCs were modeled as CRR Options to reflect the impact on the grid of "setting-aside" transmission capacity for ETC rights holders in the full amount of their rights, even though this capacity may not be fully utilized by the ETC rights holders. Based on modeling ETC rights as CRR Options, the CAISO then assessed the extent to which the requests of non-ETC LSEs for CRR Obligations could be fully allocated while satisfying a simultaneous feasibility test. Thus, the results reflected the extent to which the CAISO could satisfy the CRR requests of non-ETC LSEs if ETCs were to be honored by "setting-aside" capacity for them in the Day-Ahead market. In contrast, the December 2003 sensitivity analysis modeled ETCs as CRR Obligations rather than the CRR Options, to reflect an approach that honors ETC schedules without "setting-aside" transmission capacity for them. Thus, the sensitivity analysis assessed the extent to which the CAISO could satisfy the CRR requests of non-ETC LSEs if ETCs

Step (3) will, on a day-to-day basis, have an adverse impact on the availability and cost of transmission to non-ETC grid users because removal of transmission capacity from the network prior to being reflected when running the IFM, will reduce the amount of capacity that is available to be allocated in the simultaneous optimization of energy, transmission and ancillary services. Moreover, because withheld capacity that is ultimately not used by the ETC holder is added back into the network in Real-Time, this practice will contribute to maintaining the inconsistency between the forward and Real-Time markets that the MRTU project otherwise seeks to eliminate. To be specific, a primary objective of MRTU has been to create consistency across market time frames by using a fully accurate model of the CAISO transmission network in all markets. To the extent that the CAISO must withhold transmission capacity for ETCs that is ultimately not used by the ETC holder and released in Real-Time, such practice will create systematic inconsistency between forward and Real-Time market prices. In addition, step (3) will require complex software to be added to the MRTU development process

Withholding transmission capacity for unscheduled ETC rights in today's forward markets is a simpler process because of the radial configuration of the zonal network model and the small number of transmission constraints enforced in forward congestion management. Only the congestion zone of origin and the congestion zone of destination are needed for each ETC to determine the Inter-Zonal Interfaces where ETC capacity must be "set aside." Furthermore, in today's zonal market design, ETC rights between sources and sinks within the same congestion zone are disregarded in the forward congestion management markets because congestion management is not performed on inter-zonal interfaces. However, the withholding of unscheduled ETC capacity is much more problematic under the FNM. The market impacts of step (3), as well as the software complexity mentioned above, are direct consequences of implementing the FNM in the forward and Real-Time markets.

The primary reason why "setting-aside" unscheduled ETC capacity would have such a significant impact on the congestion management market and on the complexity of the market software has to do with the nature of a full network model. In the context of the MRTU design, requiring the CAISO to honor ETC scheduling rights by withholding unscheduled ETC capacity would require "setting-aside" transmission capacity on virtually every transmission line in the network. This would be necessary because the FNM is a looped network model where a power transfer (or transmission right) from Source A to Sink B flows potentially over the entire interconnected network, just as electricity flows according to the laws of physics. For modeling purposes, to withhold transmission capacity for any given ETC, the power flow contribution of the unscheduled ETC right would need to be calculated on every internal transmission line using the Power Transfer Distribution Factors ("PTDFs"). PTDFs are sets of numbers corresponding to the 6000 or so network branches that indicate, for a one MW injection at particular node A within the CAISO Control Area and withdrawal at another particular node B within the CAISO Control Area, how much power will flow across each

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are honored by giving them scheduling priority and accommodating them through re-dispatch of non-ETC resources, but not "setting aside" any transmission capacity for them.

transmission facility. To model unscheduled ETC rights on the FNM, it would be necessary to determine the appropriate sets of PTDFs that correspond to the injection and withdrawal nodes of each ETC, and then apply these in the appropriate MW quantities that represent the amount of each ETC's capacity that was not scheduled in the Day-ahead Market. Finally, these PTDF patterns would need to be applied to the network for all ETCs – including those ETCs with sources and sinks within the same congestion zone which currently are ignored in forward congestion management today – in such a way that they would not create counter-flows for one another (thereby reflecting the option nature of the unscheduled rights, *i.e.*, the right of the ETC holder to utilize or not to utilize the unscheduled capacity). Thus, this procedure would essentially be the same as performing a simultaneous feasibility test to allocate CRR Options for the unscheduled quantities of ETC rights. The entire procedure would need to be done **on a daily basis for all 24 hours** of the next operating day, after Day-Ahead preferred schedules are submitted to the CAISO and prior to running the Day-Ahead market. This is a formidable and complex task that will require additional, costly software that is not included in the MRTU systems currently under development. Moreover, "setting-aside" this capacity on the internal network would result in a sub-optimal use of transmission.

A second reason why withholding capacity for ETCs has a significant impact on the CAISO Controlled Grid and on the forward market is that withheld capacity is very different from a normal Energy schedule. An Energy schedule represents a specific flow of power from a source to a sink that does not respect a specific transmission path. However, withheld capacity represents an option for the ETC holder to schedule – or not to schedule – Energy on a specified transmission path in a subsequent market. Thus, where an energy schedule contributes to efficient grid utilization by optimizing the flow of power and creating room on the grid for other energy schedules, including schedules that create flows in opposite directions (*i.e.*, "counter-flows"), capacity withheld to preserve a scheduling option for the rights holder must be held entirely in reserve and prevented from creating counter-flows because those counter-flows may not materialize if the rights holder ultimately elects not to schedule on the withheld capacity. Thus, capacity withheld for unscheduled ETC rights would need to be modeled as point-to-point transmission options from a source to a sink, which render the associated transmission capacity unavailable in the IFM optimization that simultaneously clears energy, manages congestion and procures ancillary services.[23]

Under today's market design, which is based on a simple zonal network model that represents the interties in a radial fashion, there has not been any need to assess the entire set of ETCs for their simultaneous feasibility. In fact, the entire set of ETCs may very well fail a simultaneous feasibility test as Point-To-Point Transmission Options because they were executed in the pre-CAISO regime under certain expectations regarding the use of the transmission grid. In that regard, some ETCs were issued under the assumption that certain counter-flow schedules would flow at the same time, thereby ensuring simultaneous feasibility. On the other hand, unscheduled ETC rights should not

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[23] It should be noted that not all existing rights equate to true point-to-point service. In the case of transmission service that allows use of a particular PTO's entire transmission network, the CAISO would need to model all of the various combinations of service in the IFM.

be tested for simultaneous feasibility as Point-To-Point Obligations either because this would not correctly represent the way ETC transmission capacity would need to be "set-aside, *prior to the market run, i.e., before final schedules are determined,* as an option for the ETC holder to schedule (or not schedule in a later market). For these reasons, performing a simultaneous feasibility test for ETC rights is a potentially thorny issue because it was never anticipated when ETC rights were originally contracted for, yet it would be necessary for performing an accurate determination of the capacity that needs to be withheld from the market on a day-to-day basis.

Although the complexity described above speaks for itself, it is also important to consider the adverse market impact that results from "setting-aside" unscheduled ETC capacity. The CAISO performed a study to estimate the impact on the market of "setting-aside" unscheduled ETC capacity in the Day-Ahead market. The study, discussed *infra*, was performed for a single operating hour in which system load was at the 99^{th} percentile level of CAISO peak demand and indicates that increased costs to CAISO Control Area consumers on the order of at least tens of millions of dollars per year could result from "setting-aside" unscheduled capacity for all ETCs that are in effect in 2007 when the new LMP markets are scheduled to begin operation.

2. The Impact Of "Setting Aside" Unscheduled ETC Capacity On The Interties Under MRTU

In the CAISO's July 2003 Filing, the CAISO explained that, upon initial implementation of MRTU, the FNM would model the interties with other Control Areas in a radial fashion. This approach is also known as an "open loop" model to convey the fact that the network model does not capture the loops that exist in the physical network of the western region, whereby interties into the CAISO Control Area are connected to each other via transmission lines outside of the CAISO grid. Although in theory it would be more realistic to utilize a "closed loop" network model that includes a representation of the physical network loops outside of the CAISO grid, it would not be advantageous to the CAISO to utilize such a model absent an arrangement with the other western control area operators to share Day-Ahead scheduling information. Specifically, absent such exchange of scheduling information, using a closed loop model in conjunction with the new MRTU markets would more likely reduce the accuracy of Day-Ahead congestion management than increase it. Therefore, the CAISO proposed to start operating the new markets with the interties modeled radially, and to move to a closed loop model in the future as greater coordination across the western region can be achieved.

Due to the radial modeling of the interties, "setting-aside" transmission capacity on the interties is far simpler and less problematic than "setting-aside" capacity on the internal network. In that regard, each radial intertie can be viewed as a single transmission pathway with a single point of interconnection with the internal CAISO grid and having a certain amount of "Available Transmission Capacity" on which power flows can be scheduled in the forward market and power can flow in Real-Time.[24] In particular, an energy import schedule over a radially-modeled intertie can be represented in two parts: (1) an injection at the external scheduling point (node A) that travels to a single interconnection point within the CAISO Control Area (node B), and (2) the flow of power from node B to the point where the power is withdrawn from the grid to serve load (node L). The A-to-B portion of such a schedule, *i.e.*, the portion that utilizes the intertie, will have no impact on the internal CAISO grid because there is only one way the power can flow, *i.e.*, from A to B over the single pathway. Thus, the schedule creates no flow on the looped network. In contrast, a schedule on the internal network (*e.g.*, the B-to-L portion of the schedule just described, or another schedule with a source at another node C within the network and a sink at node D within the network) will typically generate flows over the entire grid because there are multiple ways power can (and will) flow between the source and the sink in the network model. Similarly, if the FNM were a closed loop model, there would be external loops between the scheduling point A and another external scheduling point (node E) that connects into the CAISO control area at node F. Thus, with a closed loop model, power injected at node A would have at least two ways to flow into the CAISO Control Area – directly from A to B, and over the external loop from A to E to F. Under a closed loop model, intertie schedules would affect the entire network just as internal schedules do.

Because the CAISO's FNM will represent the interties in a radial fashion, it is relatively straightforward for the CAISO to "set-aside" capacity for ETCs on the interties without the problematic effects that would result from "setting-aside" capacity on the internal network. "Setting-aside" capacity on the inter-ties can be accomplished in the same manner it is today for those contracts that permit the submission of post-Day-Ahead schedule changes by reducing the ATC of the relevant intertie in an amount equal to the amount of ETC rights that were not scheduled in the Day-Ahead market.

In summary, "setting-aside" unscheduled ETC capacity on the interties will not affect capacity on the rest of the network, nor will it require complex software to implement. These were two of the three main concerns that the CAISO had regarding "setting aside" unscheduled ETC capacity. The third concern was the potential adverse impact on market efficiency. In this regard, "setting-aside" capacity on interties will leave less ATC for non-ETC schedules on the interties and raise the costs of congestion on the interties in some hours. However, the CAISO anticipates that the cost impact of "setting-aside" unscheduled ETC capacity on the interties is not likely to be prohibitively large because a number of ETC contracts will have expired by the time MRTU is implemented, and the COTP is anticipated to be in a different Control Area.[25] Thus, the

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[24] Transmission capacity on an intertie can also be used to support imports of ancillary services, and such use will be a feature of the new MRTU markets. For the present discussion, however, it is sufficient and much simpler to set ancillary services imports aside and just consider energy schedules.

[25] It should be noted that, on November 1, 2004, the CAISO filed in Docket No. ER05-155 an Interim COTP Operating Agreement to establish the terms and conditions of operations, including scheduling and costs, of the COTP which has been executed by the non-PTO COTP participants. Moreover, it is anticipated that this agreement will be terminated by the time MRTU is implemented because the COTP is supposed to move to the SMUD Control Area in the third quarter of 2005.

CAISO has modified its prior proposal and now proposes to continue "setting-aside" unscheduled ETC capacity on the interties in the Day-Ahead market.

3. The Impact of "Setting-Aside" Unscheduled ETC Capacity On The Internal Network Under MRTU

"Setting-aside" unscheduled ETC capacity on the transmission network within the CAISO Control Area will have significant adverse impacts on the MRTU project, the efficient use of transmission, and on the market design. The adverse impacts on the MRTU project result from the CAISO's having to develop and implement software functionality (described in an earlier section) that is not currently part of the MRTU project scope. The need for such functionality will affect the complexity of the MRTU design as well as the project cost and schedule. "Setting-aside" transmission for some market participants will result in inefficient use of transmission by limiting the availability of transmission to be allocated optimally to CAISO grid users under the Full Network Model-based LMP congestion management approach, which is central to the comprehensive MRTU design.

The CAISO conducted a study to estimate the increase in Energy prices that would result from setting aside unscheduled ETC capacity in the Day-Ahead market, which would reduce the availability of transmission for non-ETC grid users and, thereby increase the potential for congestion. The study considered one operating hour (hour-ending 1800 on August 12, 2003), in which system demand was 39,073 MW representing the 99th percentile level of CAISO system demand for 2003; *i.e.*, 87 hours of the year had higher system demand. This hour was chosen because it was typical of the peak demand hours on the CAISO system, *i.e.*, high demand requirements, but not the most extreme, and relatively normal grid conditions (*i.e.*, no major derates). In addition, the system average LMP for this hour in LMP Study 3A is consistent with other hours in this study at the same level of system demand.[26] Accordingly, the CAISO believes that the results of this study, although based on a single hour, are fairly representative of typical peak demand conditions and are not the result of unusual circumstances.

For that hour, the CAISO calculated and compared the LMPs produced under six scenarios – three different assumptions regarding the portion of each ETC's actual Real-Time usage of its rights that was scheduled in the Day-Ahead Market (zero, 50 percent and 100 percent), with and without capacity reservations under each scheduling assumption. The network model used was the same as that used for the CAISO's LMP Study 3A. To reflect 2007 conditions, the CAISO only considered those ETCs that would still be in effect in 2007.[27] However, the study did include all relevant ETCs

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[26] LMP Study 3A was published on July 20, 2004 and is available on the CAISO web site at http://www.caiso.com/docs/2004/01/29/2004012910361428106.html.

[27] The CAISO also considered other factors that would change in 2007, but ultimately decided that trying to reflect these in the study would be arbitrary exercise. For example, an obvious item to model would be load growth. However, while system load growth could be roughly estimated, any assumptions about the pattern of such growth would be arbitrary. Moreover, although load growth by itself would tend to increase congestion on the grid, the reality is that new grid facilities would be added by 2007 that would

regardless of whether they used intertie capacity or only internal network capacity. Thus, the study captured the impact of reservations on the internal transmission network as well as on the interties.

Some explanation is needed regarding the three scheduling assumptions and the quantity of capacity "set-aside" under each assumption. First, the CAISO "set-aside" only enough capacity to accommodate the portion of ETC rights that was not scheduled in the Day-Ahead market. Thus, if the ETC had 200 MW of transmission rights and submitted a Day-Ahead schedule of 75 MW, the CAISO "set-aside" 125 MW of capacity. Second, ETC rights are typically greater than actual Real-Time ETC usage of those rights, so that, even if the ETC holder schedules 100 percent of its actual Real-Time usage in the Day-Ahead market, the CAISO still has to "set-aside" some capacity for the subsequent markets. Using the previous example, suppose the ETC rights holder's actual Real-Time usage of its rights is 150 MW, then if the ETC holder submits 150 MW (100 percent of Real-Time usage) as its Day-Ahead schedule, the CAISO still "sets-aside" 50 MW of transmission capacity for this ETC. There are two reasons for this. First, while the CAISO forecasts Demand for each Utility Distribution Company ("UDC"), it does not necessarily forecast the Demand of the individual Existing Rights holder. Therefore, in most cases the CAISO has no reasonable idea as to the Demand for the holder of such Existing Right. Second, and more importantly, the CAISO was ordered by the Commission to honor Existing Rights, and to do so in the past, it has "set-aside" the capacity in accordance with the ETC timeline.

The results of the six scenarios are summarized in terms of system-wide load-weighted average LMPs ($/MWh).[28]

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relieve some of this added congestion. To try to incorporate grid additions in the study would have required significant effort on the network model by CAISO operating engineers and would have extended the filing date of this proposal by several months. Because the effects of load growth and grid upgrades tend to be mutually offsetting, the CAISO decided that the best approach would be to utilize the 2003 load values and network conditions.

28 The pattern of the numbers in this table is reasonable given the underlying factors driving the price differences. While the average prices increase monotonically from scenario (1) to (3), the differences in average prices between the (a) and (b) cases are highest for the extreme scenarios (1) and (3) and lowest for the middle scenario (2). This is because there are two factors that change in opposite directions over the different scheduling scenarios. Factor 1 is the amount of capacity the CAISO must "set-aside" for unscheduled ETCs, which is highest under scenario (1) and lowest under scenario (3). Thus, the impact of Factor 1 decreases as ETC holders schedule more of their actual Real-Time usage in the Day-Ahead market, tending to reduce the difference in average prices between the (a) and (b) cases. Factor 2 is the amount of system demand that must be served in the determination of LMPs. This study deems system demand to be total non-ETC demand plus the amount of ETC usage scheduled in the Day-Ahead market, which increases from scenario (1) to scenario (3) and tends to increase the (a) to (b) difference in average prices. This formulation of system demand is appropriate because, when ETC usage is scheduled, it is included in the IFM as a self-schedule along with non-ETC demand and thus affects the outcome of the optimization. Thus, it is reasonable, because these two factors move in opposite directions across the scheduling scenarios, that the difference between the (a) and (b) average prices for each scenario would not necessarily change in a monotone fashion.

(1) Zero ETC Real-Time Usage Scheduled DA		(2) 50% of ETC Real-Time Usage Scheduled DA		(3) 100% of ETC Real-Time Usage Scheduled DA	
(a) Set-aside	(b) No Set-aside	(a) Set-aside	(b) No Set-aside	(a) Set-aside	(b) No Set-aside
55.43	45.00	61.78	57.66	85.01	73.65

Comparing the (a) versus (b) results across the three scheduling scenarios, the average LMP difference due to "setting aside" of unscheduled ETC capacity is approximately $8.65/MWh. Applying this cost increase to all 39,073 MW of demand results in a cost impact of roughly $338,000 for just this one hour. By definition, the 99th percentile demand hour represents the median demand in the top two percent of system demand hours (*i.e.*, half of the top two percent, or 87 hours have system demand above this level, and the other half of the top two percent, another 87 hours have system demand below this level). Thus, it is reasonable to assume that this hour is reasonably representative of the top two percent of total hours, *i.e.*, the top 174 system demand hours of the year. This leads to a cost estimate of 174 times $338,000, or roughly a $60 million annual impact associated with this increase in LMP **for the top 2% of load hours** before consideration of mitigating factors. If this type of study were performed for all load hours, the CAISO believes that the annual cost impact to load would be measured in hundreds of millions of dollars prior to consideration of mitigating factors.

There are two important mitigating factors that must be considered in determining the net effect on load of this increase in LMPs due to "setting aside" ETC capacity. First, LSEs are expected to have congestion revenue rights ("CRRs") that should mitigate a large portion of the increased cost associated with congestion. The CAISO's July 2003 Filing indicated that the CAISO intended to allocate sufficient CRRs to LSEs to fully hedge congestion charges over the course of the year, if such allocation was possible based on simultaneous feasibility. However, as noted in the earlier discussion of CRR Study 1, the "set-aside" approach to honoring ETCs will diminish the amount of CRRs available for non-ETC LSEs. Thus, it would be prudent to expect that CRRs will not fully mitigate the increased congestion costs that result from "setting-aside" capacity for ETCs.

Second, LSEs are expected to schedule some combination of their bilateral contracts and their own resources for a large proportion of their supply requirements in the forward markets. In this case, increased LMPs would also provide these LSEs increased revenues associated with their supply schedules, further offsetting some of the impact of "set-asides" on LMPs. While these two factors are expected to mitigate most of the hundreds of millions of dollars of impact, the CAISO believes that the exposure to consumers would still be in the range of tens of millions of dollars annually.

Finally, even if the cost impacts of "set-asides" on consumers are substantially reduced by the mitigating factors just described, the fact remains that forward-market LMPs would be inflated by the "set-asides" in a manner and to an extent that would undermine their usefulness in informing investment decisions.

In conclusion, the CAISO believes that this study demonstrates the potential for significant market impacts of trying to use a capacity "set-aside" approach for honoring ETCs in the context of a full network model-based LMP market design.

IV. DETAILS OF THE CAISO'S PROPOSAL FOR HONORING ETCS

In seeking to develop a revised ETC proposal under MRTU, the CAISO was guided by the following principles:

(1) Fully honor the contractual rights of ETC holders to utilize the CAISO grid;
(2) Establish, as much as possible, a single set of rules and procedures for allocating and pricing transmission capacity applicable to all grid users;
(3) To the extent any differential treatment is required for ETCs, minimize any adverse impacts on the MRTU market design and other grid users;
(4) Place responsibility for managing ETC rights on a day-to-day basis on the most appropriate entities, *i.e.*, the sellers of the contracts;
(5) Ensure full transparency of the costs associated with ETC schedules, consistent with treatment of the schedules of other Scheduling Coordinators; and
(6) Allocate CAISO charges associated with ETC schedules in an appropriate manner, consistent with cost causation, the flow of benefits from the contracts and the contract provisions.

The instant revised ETC Proposal, which builds off of the proposal that was contained in the July 2003 Filing, attempts to achieve an optimal balance of the aforementioned factors. In seeking to revise the earlier proposal in a manner that would better address the concerns of the parties affected by ETC issues, the CAISO sought to adhere to the aforementioned principles. In particular, the CAISO believes that consistent treatment of ETC schedules and other SC schedules to the maximum extent possible is necessary to support a primary objective of the MRTU project, namely, to have consistent and efficient pricing and allocation of transmission between the forward and Real-Time markets.

The CAISO's ETC Proposal has numerous benefits. First, the CAISO's ETC proposal ensures that the contractual rights of ETC holders will be fully honored, while mitigating the adverse impact of such rights on other market participants. Second, the proposal holds ETC holders financially harmless for congestion costs associated with forward schedules and last minute ETC schedule changes. Third, the proposal will minimize the impact of ETCs on the complexity of market operations under MRTU. Fourth, the proposal will not cause any delays in the MRTU implementation timeline. Finally, the proposal implements a reasonable ETC validation mechanism that will not impose an undue burden on either the PTOs or the CAISO. Accordingly, the Commission should approve the CAISO's proposed treatment of ETCs.

A. Description of the Elements of the CAISO's ETC Proposal

The CAISO's proposal for honoring ETCs has three main components: (1) scheduling the use of ETC rights in the CAISO markets; (2) settlement and allocation of CAISO charges associated with ETC schedules; and (3) validating that ETC schedules submitted to the CAISO are consistent with the ETC holders' contractual rights.

With respect to component (1), the approach proposed herein varies from the July 22, 2003 proposal because the CAISO will "set aside" unscheduled ETC capacity on the interties in the Day-Ahead. However, consistent with the July 22, 2003 filing, the CAISO will not "set-aside" unscheduled ETC capacity on the internal network, including Paths 15 and 26. As discussed *supra*, preserving the scheduling aspect of the CAISO's July 2003 proposal as it applied to internal transmission is crucial in order to avoid the substantial adverse impacts on the effectiveness of the entire MRTU design, as well as the complexity that would result from withholding transmission for capacity for unscheduled ETC rights on the Full Network Model. The July 2003 proposal for ETC schedules, as reiterated in the present filing, provides an approach that is similar to the way the PTOs honored ETC rights prior to the formation of the CAISO and is consistent with the LMP congestion management paradigm. The CAISO's ETC Proposal would continue to honor ETC scheduling rights fully, and would do so without withholding unscheduled ETC capacity on the internal network from the market, and without any potential need to reduce the firmness of accepted non-ETC schedules.

With respect to component (2), the CAISO is modifying its July 2003 proposal by offering a new "perfect hedge" settlement mechanism that fully and accurately exempts valid ETC schedules from *all* CAISO congestion charges (*i.e.*, both Day-Ahead and Real-Time congestion charges). Thus, ETC rights holders will be held financially harmless from congestion charges associated with the implementation of LMP and the ETC Proposal. As noted earlier, although congestion charges will account for the bulk, *on a total dollar basis*, of the new charges related to implementing the LMP paradigm, there are other less significant charges that will change under LMP. These charges, including losses, will be the subject of further stakeholder discussions as the CAISO develops its MRTU Tariff filing in 2005. These issues can be resolved at a later date without having an adverse impact on software development and the MRTU timeline.

With respect to component (3), the CAISO is modifying its July 2003 proposal by offering to provide an automated procedure for verifying that submitted schedules utilizing ETC rights are consistent with a set of parameters specified by the seller of the contract. This automated procedure can relieve the contract seller of the need to validate ETC schedules on a day-to-day basis, while still holding the seller responsible for providing validation parameters to the CAISO that correctly reflect contractual rights.

These three components are described in full detail in the following sub-sections.

1. ETC Scheduling

Under the ETC Proposal, ETC rights holders will continue to submit balanced schedules[29] to the CAISO Markets and will be a given scheduling priority over other users of the CAISO Controlled Grid in the Day-Ahead and Hour-Ahead markets to the extent such schedules conform to the ETC rights holders' contractual rights. In particular, in the Day-Ahead market, valid ETC self-schedules will be the last to be adjusted in the event that non-economic adjustments are required to relieve congestion.

The CAISO will continue to "set-aside" unscheduled ETC capacity on all interties (*e.g.*, COI , Palo Verde, *et al.*) in the Day-Ahead in a manner similar to how it does today. The CAISO would "set -aside" ETC capacity as follows: (1) unscheduled ETC capacity on the interties will be "set-aside" in the Day-Ahead for those ETCs that provide for rights at the interties and provide the ETC rights holder with the right to submit schedule changes after the Day-Ahead; (2)"unscheduled ETC capacity" on any given intertie in any given operating hour will be defined as the quantity of transmission capacity that is the difference between the ETC holder's maximum scheduling right under the contract for that intertie at that hour and its actual Day-Ahead schedule on that intertie for that hour; (3) "set-aside" capacity will be withheld from the Day-Ahead market as it is today, *i.e.*, by reducing the Available Transmission Capacity ("ATC") on the relevant intertie for the relevant operating hour by the "unscheduled ETC capacity" quantity; and (4) "set-aside" capacity will be withheld from the market until the deadline specified in the particular ETC for making schedule changes elapses. However, the CAISO's proposal will not grant any rights to ETC rights holders in excess of those rights already provided for in an effective ETC.

In contrast to today's practice, the CAISO will not "set aside" any transmission capacity on today's internal inter-Zonal interfaces (*i.e.*, Path 15 and Path 26) or on any other internal transmission[30] for ETC rights holders. In the Hour-Ahead market, ETC schedule changes will be given priority over all other Hour-Ahead schedule changes. Thus, Hour-Ahead ETC changes will be accepted as fully as possible as long as such changes are permitted under the relevant ETCs and do not require modifying final Day-Ahead schedules. The CAISO notes that it will have much greater ability under MRTU than it has in today's Hour-Ahead Market to accept ETC schedule changes because of the elimination of today's "Market Separation Rule." The Market Separation Rule prohibits

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[29] It is important to note that the balanced schedules required of ETCs under MRTU are not the same as the balanced schedules required of all SCs under the CAISO's existing market design. Today, each SC's portfolio of demand and supply resources must be balanced when submitted to the CAISO, and remain in balance after the CAISO runs its forward markets and publishes final schedules. In contrast, under MRTU, balanced schedules will no longer be a general requirement for all SCs. However, when a SC submits a schedule for an ETC, the demand and supply for that ETC must be balanced. This requirement does not preclude the SC from submitting a schedule that includes additional demand and/or supply that may not be balanced, as long as the demand and supply elements for any given ETC within that SC's schedule are labeled as such with a unique ETC identifier and are balanced.

[30] The CAISO currently does not "set aside" unscheduled ETC capacity on any intra-Zonal transmission and does not propose to change that practice under MRTU.

the CAISO from trading incremental and decremental bids among SCs for the purpose of clearing congestion. This rule, which is in place today, places severe limits on the CAISO's ability to clear congestion in its forward market. As such, the market separation rule was identified early in the market redesign process as something that needed to be eliminated. By virtue of its elimination, the CAISO will have much greater flexibility than today to utilize non-ETC bids submitted to the HASP to accommodate ETC schedule changes at the same time. Finally, any portion of Hour-Ahead ETC schedule changes that cannot be accepted in the Hour-Ahead market will be accepted as Real-Time schedule changes. In addition, ETC rights holders will be able to submit, and the CAISO will accept, further schedule changes after the Hour-Ahead market closes in accordance with the rights specified in the particular ETC. In the Real-Time economic dispatch process, the CAISO will re-dispatch non-ETC resources relative to their final Hour-Ahead schedules as necessary to accommodate valid real-time ETC schedule changes. Thus, all valid ETC schedules and schedule changes will be fully honored.

In contrast to non-ETC schedules, schedules that utilize ETC rights must be balanced when submitted to the CAISO, *i.e.*, must contain equal MW quantities of injection and withdrawal out of the grid. This is true of post-Day-Ahead ETC schedule changes, as well as Day-Ahead schedules, and is in contrast to non-ETC parties, who will not explicitly revise their load schedules in the Hour-Ahead market. In addition, the withdrawal side of ETC schedules will be scheduled at specific network nodes consistent with their contractual rights or, if applicable, at the interfaces of a metered subsystem. This also is in contrast to the withdrawal side of non-ETC Day-Ahead schedules, in which loads internal to the CAISO control area will be scheduled and settled at the appropriate Load Aggregation Point or "LAP".[31] These provisions are necessary to represent ETC usage of the CAISO grid in an accurate manner in the congestion management process and to ensure that the scheduling priority accorded to ETC schedules is consistent with the definition of their contractual rights.

Set forth below is an example of how the CAISO will honor ETC rights within the network under MRTU.

Assume a situation in which SC 2 has 20 MW ETC rights from Node A to Node B within the CAISO Control Area. In the Day-Ahead market, SC2 schedules 10 MW of supply at Node A to serve an equal quantity of load at Node B. If schedule adjustments are required to manage congestion in the Day-Ahead market, this ETC schedule receives

[31] Some parties have argued that it is unduly discriminatory for the CAISO to require ETC holders to schedule and settle their internal loads at their actual locations rather than the LAP. In order to minimize the adverse impacts on the efficiency of the MRTU markets and on non-ETC grid users, the CAISO believes it is necessary and appropriate to model both the injection and withdrawal schedules of ETCs at the locations that correspond to their contractual rights in order to correctly reflect the impact of their scheduling priority on the market. Furthermore, under the "perfect hedge" mechanism, there will not be any difference in congestion charges due to settling ETC load at the LAP versus at the actual nodal locations because these charges are fully reversed in settlement. The settlement aspect (but not the scheduling aspect) of the LAP versus nodal issue will be an element of further discussion with stakeholders in the context of other settlement aspects of MRTU.

priority over non-ETC schedules, so that it will be fully accepted unless congestion cannot be cleared by means of Day-Ahead market bids and, if necessary, non-economic adjustments to non-ETC schedules. In the Hour-Ahead market, SC 2 increases its ETC schedule by 10 MW. As in the Day-Ahead, this ETC schedule change has priority over non-ETC schedule changes submitted in the Hour-Ahead; so it will be fully accepted unless congestion cannot be cleared by means of bids and adjustments to non-ETC schedules. However, there is an additional requirement in the Hour-Ahead market, namely that final Day-Ahead schedules cannot be adjusted. This could mean that, in some instances, it may not be feasible to accept the Hour-Ahead ETC schedule change fully *within the HASP* without modifying the final Day-Ahead schedule. In such instances, the Hour-Ahead ETC schedule change will be accepted to the extent possible, and the remainder will be accommodated in the Real-Time market. To continue the example, suppose that 5 MW of SC 2's 10 MW increase submitted to the Hour-Ahead market can be accommodated in such market, so that SC 2's final Hour-Ahead ETC schedule is 15 MW of injection and load. In Real-Time, the CAISO will enter the additional 5 MW of ETC supply into the economic dispatch software and will run the Real-Time balancing market. The-Real Time software will automatically dispatch the submitted energy bids of Real Time market participants as needed to accommodate the additional 5 MW of ETC injection completely in the context of balancing the system and reliably operating the grid.

2. Settlement and Allocation of CAISO Charges

Under the CAISO's July 2003 proposal for honoring ETCs, the CAISO proposed to facilitate inter-SC trades to isolate congestion charges for ETC schedules under an LMP paradigm, and then to allocate these charges to the PTOs as the sellers of the ETC rights and the Scheduling Coordinators for ETC schedules. The proposal also provided for hedging of the ETC congestion charges by the PTO-SCs associated with the ETCs by allocating CRRs to the PTO-SCs. However, this would have constituted an imperfect hedge because the contractual rights allow ETC rights holders to change their schedules up to Real-Time without additional costs being charged to them beyond those costs already incorporated within their contracts. Thus, the PTO-SCs would have been exposed to CAISO charges related to post-Day-Ahead ETC schedule changes, whereas, CRR payments would be based purely on Day-Ahead prices. Of course, just as for other LSEs the CAISO's allocation of CRRs for ETCs would attempt to provide, subject to simultaneous feasibility, sufficient coverage of actual ETC load to constitute a complete hedge over the course of the year against congestion charges. Thus, under the July 2003 proposal, the unhedged congestion cost risk for the PTO-SC would have been limited primarily to the impacts of discrepancies between forward and real-time prices. The CAISO argued that any legitimate unhedged costs incurred by the PTO-SCs in scheduling ETCs should be recoverable through their Transmission Revenue Requirement ("TRR") accounts.

In written comments submitted in response to the CAISO's July 2003 Filing and to the March 5 White Paper, and in discussions at the stakeholder meetings, parties raised concerns about this proposal. Some of the main concerns expressed both by PTOs and

ETC rights holders pertained to the risks stemming from what was only an approximate relationship between the quantity of allocated CRRs and the actual congestion charges in the CAISO markets, as well as the uncertainty of Commission approval of PTO cost recovery through the TRR. Some parties also argued that it was not appropriate to hold the PTO responsible for ETC congestion charges in cases where the PTO is not the SC for the ETC.

In response to these and other concerns, the CAISO has developed an alternative proposal. The essence of the new proposal is to apply an exact reversal in CAISO settlements of the congestion charges associated with a valid ETC schedule in the Day-Ahead market or a valid post-Day-Ahead ETC schedule change. Because of the exact reversal of the congestion charges, the proposal is called the "perfect hedge" mechanism. Based on reactions to this proposal at the September 27 stakeholder meeting, the CAISO proposes to substitute this for the proposal contained in the July 2003 Filing for purposes of settling and allocating the congestion charges accruing to ETC schedules. The result is that ETC rights holders will not pay any congestion costs associated with valid ETC schedules and schedule changes.

There are two primary aspects of how the "perfect hedge" mechanism will work, one pertaining to Day-Ahead ETC schedules (and Day-Ahead congestion charges) and the other pertaining to post-Day-Ahead ETC schedule changes (*i.e.*, Hour-Ahead and post-Hour-Ahead changes, which would accrue real-time congestion charges). From the viewpoint of the SC for the ETC (who may be the PTO, the ETC holder, or a third party SC), there are no practical differences between the Day-Ahead and post-Day-Ahead aspects. The difference lies in how the costs are re-allocated to the market.

a. In the Day-Ahead market, the congestion charges associated with a valid Day-Ahead ETC schedule will be reversed in settlement on an hourly basis. Because Day-Ahead congestion charges are paid out to CRR holders, this failure to collect such charges from some Day-Ahead schedules could result in a revenue shortfall for CRR holders unless some corrective measure is put in place. To ensure that the non-collection by the CAISO of these congestion charges does not create systematic revenue inadequacy for non-ETC CRR holders, the CAISO will model ETC CRR obligations along with other LSE CRR requests in the simultaneous feasibility test in the CRR allocation process. Thus, the CRR allocation process will create CRRs corresponding to the ETC holders' usage of the grid. However, the CAISO will not release these ETC CRRs; rather, the creation of these CRRs will constrain the release of non-ETC CRRs in a manner that anticipates ETC grid usage and therefore supports the revenue adequacy of the non-ETC CRRs. Further, under this proposal, ETC congestion charges that are negative (*i.e.*, when the ETC schedule creates a counter-flow that reduces grid congestion) will also be reversed in settlement, *i.e.*, will not be paid by the CAISO. Thus, the proposal keeps the ETC SC financially neutral with respect to congestion charges.

b. In the Real-Time market, the congestion charges associated with a valid post-Day-Ahead ETC schedule change (including changes submitted to the Hour-

Ahead Scheduling Process and changes submitted closer to Real-Time where allowed by the contract) will be reversed in settlement on the standard Real-Time 10-minute interval basis. Because congestion charges are implicitly collected by the CAISO in the Real-Time settlement and there are no holders of rights to receive Real-Time congestion revenues under the MRTU design, all charges for Real-Time congestion will be accumulated in a special and separate neutrality account to be distributed back to non-ETC control area metered demand and exports on a per-MWh basis. Obviously, the reversal of Real-Time congestion charges for ETCs will reduce the amount of funds going into this neutrality account and, thus, the congestion costs of these post-day-ahead ETC changes will be spread to all non-ETC load in the system and exports. This impact should be limited, however, by the symmetrical facts that ETC load and exports do not receive a share of this account nor do they pay into it. As in the Day-Ahead market, negative Real-Time congestion charges as well as positive ones will be reversed for ETCs in settlement.

Because the ETC schedules will not be subject to any congestion charges under the CAISO's ETC Proposal, it will not be necessary for the CAISO to allocate CRRs to any market participant – ETC holder, PTO, or other – to hedge these charges. As noted above, the CAISO will create such CRRs on paper, will not release them as a means to ensure revenue adequacy for CRRs allocated or auctioned to other parties.

The following example illustrates how the "perfect hedge" proposal will work. Suppose a particular ETC is defined by a maximum limit of 120 MW that may be injected at node A and withdrawn at node B. In the Day-Ahead, market, the ETC rights holder, acting as its own SC, submits a balanced schedule of 100 MW injection at A and 100 MW withdrawal at B. Due to the scheduling priority given to ETCs, this schedule is fully accepted. As a result of running the DA IFM, the LMP-A equals $40 and LMP-B equals $50. When these LMPs are broken down to their energy, congestion and loss components, the congestion charge from A to B is $9 and the cost of marginal losses from A to B is $1. The ETC holder's settlement statement for this DA schedule would indicate:

Credit for injection at A = -100 MW * $40 = -$4000
Charge for withdrawal at B = 100 MW * $50 = $5000
Credit under Perfect Hedge = 100 MW * (-$9) = -$900
Net charge (cost of marginal losses from A to B) = $100.

In the post-Day-Ahead time frame – either in the Hour-Ahead market or post-Hour-Ahead if permitted under the contract – the ETC holder submits a balanced schedule change increasing its injection at node A from 100 MW to 120 MW and its withdrawal at node B from 100 MW to 120 MW, thus utilizing the full allowance of the contractual rights. Assume that the Real-Time LMPs and metered quantities are constant across the six 10-minute intervals of the operating hour and, as a result of running the Real-Time market, the hourly average prices are $40 at LMP-A and $52 at LMP-B. Decomposing these LMPs into their components indicates that the congestion charge from node A to node B of $11, and the cost of marginal losses from node A to node B is $1. The ETC holder's settlement statement for this post-Day-Ahead schedule would indicate:

Credit for injection at A = -20 MW * $40 = -$800
Charge for withdrawal at B = 20 MW * $52 = $1040
Credit under Perfect Hedge = 20 MW * (-$11) = -$220
Net charge (cost of marginal losses from A to B) = $20.

As this example illustrates, under the "perfect hedge" proposal, the ETC holder is held completely harmless with respect to congestion charges in all CAISO markets.

3. Validation of ETC Schedules

In the context of the ETC Proposal, validation means verifying that submitted ETC schedules and schedule changes are fully within the contractual limits specified in the ETCs with regard to eligible injection and withdrawal locations, maximum MW quantities, scheduling deadlines, and other relevant parameters. There are two aspects of the ETC Proposal for which validation is important – scheduling priority and settlement – because valid ETC schedules and schedule changes will receive special treatment with respect to both aspects. If it were only a matter of settlement treatment, validation could be performed after the operating day, in the course of processing the scheduling and operating data for the settlement process. However, because scheduling priority is involved, there must be *ex ante* validation, *i.e.*, validation at the time of the relevant scheduling deadline prior to the running of each CAISO market, to ensure that the CAISO market software does not provide priority to schedules that do not comply with contractual rights.

The CAISO's July 2003 proposal for honoring ETCs included a requirement that the relevant PTO who is a party to the ETC function as the SC for that ETC and verify that the schedules submitted for that ETC are in compliance with the contractual rights of the ETC rights holder. In written comments on that proposal and in the stakeholder process over the last several months, several parties argued that the CAISO is better suited than the PTO to perform the required verification. The main arguments for this position were as follows: (1) for some ETCs, the SC role has already been assumed by a non-PTO party (in some cases the ETC rights holder itself) and, in such cases, the PTO is not involved in day-to-day ETC scheduling and, therefore, does not have ETC scheduling data for timely validation; and (2) today the CAISO performs day-to-day verification that ETC schedules are within their contractual rights based on a set of instructions provided by the PTO for this purpose, and this procedure seems to be working effectively.

These arguments do not mitigate the CAISO's concerns about assuming this responsibility in the context of MRTU due to the complexity of ETC schedule validation based on enforcement of a Full Network Model and the attendant potential for the CAISO to become embroiled in disputes over validation decisions. Moreover, the CAISO is not a party to the ETCs and, in accordance with Section 2.4.4.4.1.1 of the Tariff, the CAISO is not supposed to have any role in interpreting the ETCs. At the same time, the CAISO has recognized that all ETCs do not necessarily have the same scheduling provisions and, therefore, it would be appropriate to offer some flexibility. Accordingly, the CAISO now proposes as an option a "middle ground" approach whereby the CAISO will perform day-to-day verification that submitted ETC schedules are within contractual rights, as long as the requisite data is provided by the contract seller, *i.e.*, the PTO, to serve as the basis for this verification. This new approach is offered as an option for those ETCs where it is appropriate and workable, but would not preclude the approach proposed in the July 2003 Filing, *i.e.*, full PTO responsibility for ETC scheduling and schedule validation, for those ETCs where that approach is most appropriate.

The automated CAISO validation procedure proposed herein was described in the CAISO's September 20, 2004 Revised ETC White Paper and discussed with stakeholders at the September 27 stakeholder meeting hosted by the CAISO. The automated validation procedure would work as follows.

a. Each ETC will have a unique ID number that must be used on all scheduled quantities of supply and demand for which treatment as an ETC is desired by the SC. The SC may submit multiple self-schedules for multiple ETCs as well as non-ETC schedules and bids under its SC-ID, so long as each ETC injection and withdrawal quantity in the SC's submission is flagged with the correct ETC ID.

b. The unique ETC ID will correspond to an ETC-specific parameter table provided by the PTO that will be used by the CAISO for ETC schedule validation. The table will contain the details of the ETC holder's rights in terms of allowable injection and take-out points, maximum MW, allowable scheduling deadlines and possibly other data.

c. The applicable PTO responsible for the ETC shall provide the contents of the table simultaneously to the CAISO and to the ETC rights holder, well in advance of the markets in which the data must be used. Thus, CAISO validation of ETC schedules will essentially constitute an automated execution of PTO instructions without CAISO interpretation or discretion. Any disagreements between the PTO and the ETC holder will be identified by the parties and should be resolved in advance, and outside, of the day-to-day operation of the CAISO markets.

d. In the Day-Ahead market, ETC schedules must be submitted as balanced self-schedules, *i.e.*, equal MW quantities of ETC injections and withdrawals at specific grid locations with no associated bid prices. ETC load that is internal to the CAISO grid will schedule at the actual load location and will not utilize Load Aggregation Points ("LAPs").

e. In the Day-Ahead process, upon receiving the ETC schedule, the CAISO will use the ETC ID to retrieve the ETC-specific parameter table, and the CAISO will then determine whether the submitted ETC schedule is valid. Specifically, the injection and take-out locations and the MWs must be consistent with the data in the table, and total injections and withdrawals must be balanced. If the submitted schedule is valid, it will be accepted for input to the IFM.

f. If the submitted schedule is not valid, the CAISO could perform simple adjustments, or could simply reject the schedule.[32] In either case, the CAISO would inform the SC in a timely fashion that the schedule was found to be invalid and would specify the action taken by the CAISO. The CAISO does not propose any specific resolution at this time to this question of possible modifications the CAISO might perform to invalid ETC schedules, but intends to pursue the issue with the ETC parties prior to filing tariff language to determine how best to deal with submitted ETC schedules determined to be invalid. Any approach must be consistent with the objectives of minimal complexity, full automation and transparency on the CAISO side, and must ensure that any disputes regarding use of ETC rights are handled by the contracting parties.

g. In the Hour-Ahead and post-Hour-Ahead, essentially the same verification is performed as in the Day-Ahead process, with the additional criterion that ETC schedule changes must be submitted within scheduling deadlines specific to their contracts.

In conclusion, the automated validation approach described above constitutes a middle ground that relieves PTOs, for many of their ETCs,[33] of the day-to-day obligation to verify that ETC schedules are within the ETC holders' contractual rights. Moreover, the proposed approach does not add too much complexity to CAISO systems or potentially place the CAISO in the middle of disputes between ETC rights holders and PTOs regarding the parameters limiting the exercise of ETC rights. From the CAISO's perspective, it is critical that (1) the contracting transmission provider (*i.e.*, PTOs) be responsible for the accuracy of the data files against which the CAISO validates ETC schedules, (2) each ETC data file be provided to the ETC rights holder and the CAISO simultaneously, to enable any disagreements between the contracting parties to be resolved outside of the CAISO's day-to-day markets and operations, and (3) the CAISO procedures lend themselves to full automation, to maximize transparency and eliminate the need for CAISO discretion in the validation process. Given these limitations, there still may be a desire by PTOs or other parties to further reduce their active roles or to increase the CAISO's role in ways that go beyond the "workable middle ground"

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[32] Although the CAISO intends to engage in further discussions with stakeholders on this subject, for reasons of implementation simplicity and avoiding exposure to disputes, the CAISO's initial predisposition is not to perform any modifications to invalid ETC schedules, but simply to perform the verification and either accept or reject the submissions. An example of a simple adjustment that might be acceptable would be where a submitted ETC schedule uses correct scheduling nodes and is within the allowable MW, but is not balanced. In this case, the CAISO could treat the balanced portion of the schedule as an ETC schedule and treat the excess injection or withdrawal as an ordinary self-schedule in the market.

[33] There may be some particular ETCs for which PTOs will have to retain full responsibility for scheduling and schedule validation, and to which this proposal may not apply. One example would be a situation where the contractual terms of the ETC were not amenable to unambiguous specification in the required validation data file and, therefore, would require discretionary actions on a day-to-day basis.

objective behind the instant proposal. In such cases there may be a third workable option, namely, to turn over the validation role to a third party, who would be responsible for submitting ETC schedules that are certified valid and is subject to periodic audit. Any option should not add unacceptable complexity or costs to the MRTU project or increase the CAISO's exposure to disputes.

4. Treatment of Ownership Rights

In the July 22, 2003 Filing, the CAISO took the position that Transmission Ownership Rights ("TORs") such as the California-Oregon Transmission Project ("COTP") where transmission rights derive from physical ownership of transmission facilities located within the CAISO Control Area that have not been turned over to the CAISO's Operational Control -- in contrast to contractual rights to receive service on transmission facilities that have been turned over to the CAISO's Operational Control by PTOs -- may need to be treated differently from ETCs. In the October 28, 2003 Order, the Commission expressed reluctance to allow an exception to the CAISO's ETC proposal for COTP and directed the CAISO to "undertake a further analysis of this part of the proposal, and demonstrate that the variation in treatment of certain ETCs, as proposed, is not unduly discriminatory."

The instant ETC Proposal does not apply to TORs; it only applies to contractual transmission rights. The CAISO is in the process of developing a White Paper addressing TOR issues. The White Paper should be circulated to stakeholders in the near future for review, comment and discussion in a separate stakeholder process. At this time, the CAISO continues to believe that (1) ownership rights such as those associated with COTP and a few other facilities are distinguishable from ETC rights that apply to facilities owned by a PTO and under CAISO Operational Control; and (2) the distinction could result in treating TORs differently than ETCs in certain respects. Nevertheless, the CAISO requests that the Commission not rule on this question nor any other matter related to TORs in making its ruling on the instant ETC Proposal, until after the CAISO submits its specific proposal on the treatment of TORs under MRTU.

B. The CAISO's ETC Proposal Does Not Abrogate Or Diminish ETC Rights

1. Summary of Findings

As indicated above, the October 28 Order required the CAISO to demonstrate that its proposal would accommodate valid ETC schedule changes without diminishing existing contractual rights. The CAISO's demonstration that its ETC Proposal does not abrogate existing contractual rights is based on the following: (1) a review of all ETCs and the ETC submissions made by parties in response to the Commission's June 17 Order; (2) a review of the PTO instructions that were provided to the CAISO at start-up setting forth the ETC terms that the CAISO was required to honor; (3) an explanation of how the scheduling rights accorded to ETCs under the ETC Proposal are consistent with the PTOs' treatment of ETCs prior to formation of the CAISO; (4) an explanation of how ETC rights holders submitting valid ETC schedules and schedule changes will be able to schedule up to 100 percent of the ETC capacity through Real-Time (*i.e.*, the ETC Proposal will accommodate valid Real-Time ETC schedule changes); (5) a demonstration that the ETC Proposal will not have an adverse financial impact on ETC rights holders; and (6) a review of the Commission's treatment of MISO's grand-fathered agreements.

The CAISO submits that its ETC Proposal fully honors ETC rights of access to the CAISO Controlled Grid without the need to "set-aside" unscheduled ETC capacity on the internal network. Although the CAISO currently "sets-aside" unscheduled ETC capacity on Path 15 and Path 26 (but not on any of the intra-Zonal interfaces) in the Day-Ahead, such "set aside" of capacity is not something that the CAISO is obligated to do under the ETCs so long as the ETC rights holder receives its validly scheduled Energy and is held harmless from any re-dispatch costs. In particular, no ETC expressly requires the CAISO to withhold transmission capacity on any CAISO-controlled grid facilities – inter-Zonal or otherwise – from the market in order to honor ETC rights holders' scheduling rights.

As discussed in greater detail below, the CAISO's review of ETCs shows that ETCs generally provide that ETC rights holders can schedule up to a specified amount of service up until the timeline specified in the contract, and that such level of service will be honored. The ETC Proposal does nothing to abrogate that right. Under the ETC Proposal, only the method by which the CAISO accommodates ETC schedules on the inter-Zonal interfaces will change, not the end result, *i.e.*, service at the contracted-for price.

The ETC Proposal enables ETC rights holders to schedule (and receive) up to the maximum level of service specified in their contracts by employing the following mechanisms: (1) valid ETC schedules will have a priority in the Day-Ahead and Hour-Ahead markets; and (2) if necessary, the CAISO will accommodate valid post-Day-Ahead schedule changes for ETC rights holders in Real-Time via re-dispatch, without any adverse financial consequences to them.[34] ETC rights holders will not bear any Day-Ahead or Real-Time congestion costs associated with valid ETC schedules and schedule changes. In particular, ETC rights holders will not bear any costs associated with CAISO re-dispatches of energy to accommodate last-minute ETC schedule changes.

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[34] Some parties expressed concern that the ETC Proposal will place a severe Real-Time burden on CAISO operators by requiring them to accommodate real-time changes to ETC schedules instead of simply "setting aside" capacity for the ETCs in the Day-Ahead Market. However, CAISO's operators do not see this as a heavy burden. For ETCs that utilize only transmission capacity within the CAISO Control Area, the Real-Time security-constrained economic dispatch will see the ETC changes as Real-Time deviations and will automatically re-dispatch resources as needed to meet load in the most efficient manner, taking into account transmission constraints and generator performance. Thus, managing internal Real-Time ETC changes is no different than managing any other Real-Time imbalances.

2. The CAISO's Review of ETCs and Parties' July 23rd Submissions To The Commission

The CAISO has undertaken a review of those ETCs that will be in effect after February 1, 2007, *i.e.*, the expected effective date of the new market design, to determine whether the ETC Proposal is inconsistent with the express provisions of such contracts. The results of the CAISO's review are summarized in the matrices contained in Attachment D hereto. The CAISO has also reviewed parties' June 23rd submissions to the Commission regarding the terms of their ETCs, including parties' written narratives and comments regarding the terms of such ETCs. Based on the CAISO's review of such documents, the CAISO submits that its ETC Proposal fully honors ETC rights and will permit ETC rights holders to schedule and receive up to the maximum level of service to which they are contractually entitled under their ETC(s) without incurring any additional costs.

The CAISO's review of ETCs shows that ETCs generally have the following terms (related to ETC scheduling/service rights):

(1) the ETC rights holder is entitled to receive a specified amount of service from a specified source to a specified sink on a firm basis; and

(2) the ETC rights holder is permitted to schedule (or submit schedule changes for) such specified amount of service up until a specified timeline stated in the contract, and the transmission provider must honor such amount (in other words, the ETC entitles the ETC rights holder to a specified level of transmission service within the timeframe specified in the contract);

On the other hand, the ETCs do not tell the transmission provider how the transmission provider must operate the transmission network in order to effectuate the delivery of the service quantities scheduled by the ETC rights holder. Stated differently, the ETCs do not tell the transmission provider how to provide the scheduled service; they only specify the amount of service that the transmission provider is obligated to provide in accordance with the terms of the contract. In particular, there are no express contractual provisions that require the transmission provider to "set aside" for the ETC rights holder in the Day-Ahead time frame the full amount of capacity specified in the contract or any portion thereof. In particular, the contracts do not require the transmission provider to "set aside" in the Day-Ahead and withhold from the market transmission capacity for unscheduled ETC rights – capacity that ultimately may not be used by the ETC rights holder. "Setting aside" capacity is merely one method by which the CAISO can operate the transmission network to provide the service for which the ETC rights holder has contracted. However, there are many other approaches to accomplishing that same result, including the approach adopted in the ETC Proposal. Indeed, the CAISO currently accommodates ETC rights by, *inter alia*, "setting aside" capacity on inter-Zonal interfaces and the interties in the Day-Ahead timeframe, but previously the PTOs accommodated ETC rights in a different way that did not involve withholding transmission capacity from the market in the Day-Ahead. The ETCs do not require a specific method of honoring the service levels specified in the ETCs; they only require that such rights be honored. All that is required is that the ETC rights holders have the ability to receive the level of service for which they have contracted. The CAISO's ETC proposal honors those contractual rights. Specifically, ETCs rights holders will be able to schedule up to the full amount of the capacity specified in their contracts within the timeline specified in their contracts, and the CAISO will honor all valid ETC schedules and schedule changes.

In response to the June 17 Order, on July 23, 2004, parties filed data in template form regarding the contract terms of ETCs. In addition, numerous parties submitted substantive comments regarding the terms of their ETCs.[35] The CAISO reviewed these submissions as part of its effort to demonstrate that the ETC Proposal does not abrogate existing contractual rights. Although numerous parties asserted in their comments that the CAISO should not be permitted to abrogate ETC rights, there was no specific demonstration of how the CAISO's ETC Proposal would fail to honor ETC rights specified in the contracts. The filed templates and accompanying comments merely indicated the type of service under the contract, the applicable sources and sinks and the number of megawatts to be transported under the contract.

Several of the comments that were submitted along with the templates indicated that the rights holder is entitled to firm transmission service under the ETC. *See, e.g.*, LADWP Comments at 7; CDWR Comments at 5; SVP Comments at 10; MWD Comments at 6; and CCSF Comments at 4. As discussed above, the mere fact that ETC rights holders are entitled to firm service does not require the CAISO to "set-aside" unscheduled ETC capacity on the internal network in the Day-Ahead or to operate the transmission system in a specified manner in order to effectuate the service. It merely requires the CAISO to provide transmission service to the ETC rights holder, with a firm priority, up to the maximum number of megawatts specified to be transmitted under the contract and within the timeline specified in the contract. It does not matter how that service is effectuated; all that matters is that the level of service to which the rights holder is entitled under the contract is in fact provided. The ETC Proposal ensures that valid ETC schedules and schedule changes will be honored.

Not "setting aside" capacity on the internal network will not have any adverse impact whatsoever on ETC rights holders and in no way abrogates existing contractual rights. In that regard, the CAISO operates the transmission grid on an integrated basis. Service on the network does not require that scheduled Energy be delivered via a specified path, and Energy under a particular ETC on the internal network does not flow via a specified path. Rather, the CAISO optimizes its dispatch so that Energy flows in the most efficient manner at a given point in time. In the Real-Time market proposed

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[35] Written comments were filed by the following parties: the State Water Project of the Department of Water Resources; the Metropolitan Water District of Southern California; Transmission Agency of Northern California; Los Angeles Department of Water and Power; City and County of San Francisco; Bay Area Rapid Transit; the Cities of Santa Clara and Redding and the M-S-R Public Power Agency, jointly; and Arizona Electric Power Cooperative, Inc. and Southwest Transmission Cooperative, Inc., jointly.

under MRTU, the CAISO will optimally dispatch resources within the CAISO control area to serve load and to manage congestion on a five-minute interval basis. In particular, the CAISO's Real-Time economic dispatch will recognize post-Hour-Ahead ETC schedule changes and will take such changes into account in the Real-Time dispatch instructions issued to internal generation. Thus, under MRTU, even if the CAISO does not "set-aside" unscheduled ETC capacity on the internal network in the day-ahead, the CAISO will still be able to accommodate all ETC schedule changes. Thus, the CAISO will be able to fully honor ETC rights. Further, as a result of the CAISO's "perfect hedge" proposal, ETC rights holders will not bear any additional congestion costs associated with the CAISO's re-dispatch of resources necessary to accommodate ETC schedule changes.

The CAISO's proposed approach to accommodating ETCs is consistent with the Commission's definition of firm service. In that regard, firm service:

> implies certainty with respect to delivery and price. Once a customer taking firm service . . . agrees to pay the transmission rates and schedules service, it has the full assurance that it will be able to transmit power between its chosen receipt and delivery points without service interruption (absent *force majeure* or curtailment) and without being subject to any additional costs.

Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design, 100 FERC ¶61,138, at P 143 (2002). That is exactly what the CAISO is doing here. Valid ETC schedules and schedule changes will be honored. Moreover, ETC rights holders will not be responsible for re-dispatch costs on the internal network that are incurred to relieve constraints or accommodate ETC schedule changes. Thus, the CAISO is honoring the firm nature of ETCs. Indeed, the service the CAISO will be providing ETCs on the internal network is equal or superior to the firm service described in the Order No. 888 *pro forma* Open Access Tariff and superior to new firm use under the CAISO Tariff. *See Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Statutes and Regulations [Regulations Preambles 1991-1996] ¶ 31,036, at 31,938 (1996) ("Order No. 888").

3. The ETC Proposal For The CAISO Network Is Consistent With The Operating Instructions The PTOs Provided The CAISO Regarding The Terms And Conditions Contained In The ETCs

Section 2.4.4.4.1.1 of the CAISO Tariff provides that the CAISO "will have no role in interpreting Existing Contracts" and requires the CAISO to implement the operating instructions for such ETCs as provided either jointly by the applicable PTO and the ETC holder or unilaterally by the relevant PTO in the event of a dispute. Tariff Section 2.4.4.4.4 further provides that "[a]ll contractual provisions that have been communicated to the CAISO in writing in accordance with Section 2.4.4.4.1 by the parties to the Existing Contracts shall be honored by the ISO and the parties to the Existing Contracts and shall be implemented in accordance with the terms and conditions of the relevant existing Contracts so notified."

Prior to the April 1998 start-up of the CAISO, the CAISO received extensive sets of ETC operating instructions from the PTOs regarding ETC rights that the CAISO was supposed to honor. Consistent with the CAISO Tariff, these operating instructions reflected all of the ETC terms and conditions that the CAISO was required to honor. The CAISO implemented such operating instructions through both automated and manual processes. The operating instructions provided, *inter alia*, the following information regarding ETCs such as: (1) the character of the service (*i.e.,* firm or non-firm); (2) scheduling and curtailment priorities; (3) service levels; (4) scheduling deadlines; (5) required operational procedures; (6) sources and sinks; (7) resale and reciprocal rights; (8) seasonal variances; (9) transmission priorities; (10) rounding requirements; and (12) terms and termination statements. The ETC operating instructions typically indicated that the ETC rights holder was entitled to receive a specified quantity (in MW) of service on a firm basis from a specified sink to a specified source.

The operating instructions that were submitted to the CAISO showed that ETCs contained a wide variety of terms, conditions and rights for the ETC holders. In particular, there was a significant amount of variation in ETC rights holders' ability and flexibility to make changes to their schedules. In that regard, the ability to make schedule changes under ETCs ranged from several hours before the operating hour up until twenty minutes before the operating hour. Given the wide degree of disparity among ETCs, the CAISO concluded that it would be appropriate at the start-up of the CAISO markets to adopt a "least common denominator" approach in order to honor existing contracts. Accordingly, the CAISO created a new scheduling mechanism for purposes of accommodating ETCs. Specifically, the CAISO made the assumption that, for purposes of congestion management, ETC rights holders would use the entirety of their ETC capacity in Real-Time. Based on this assumption, the CAISO implemented a mechanism to "set aside" all ETC capacity on interties and inter-zonal interfaces that was not scheduled in the Day-Ahead and hold such capacity out of the market for the sole use of ETC rights holders up until 20 minutes before Real-Time, regardless of whether ETC rights holders actually used such capacity or not. The unused capacity would be released only 20 minutes prior to Real-Time.

The "setting aside" of unscheduled ETC capacity in the Day-Ahead timeframe was a brand new concept devised solely by the CAISO to accommodate ETCs. In that regard, the operating instructions the CAISO received from the PTOs identified the allocations of ETC rights across the various CAISO inter-Zonal interfaces, the sources and sinks for the contracts and the character of the service (*i.e.,* firm or non-firm). The operating instructions did not indicate that any ETCs had terms that required the "setting aside" – *i.e.,* the total prevention of use – of unscheduled ETC transmission capacity in the CAISO's Day-Ahead or Hour-Ahead markets. Further, the PTO operating instructions did not state that the CAISO was prohibited from making available to the market ETC capacity that was not scheduled in the Day-Ahead. In other words, the PTO instructions did not require the CAISO to "set aside" unscheduled ETC capacity on the interties or the inter-zonal interfaces. Rather, the concept of "setting-aside" the full amount of ETC capacity that could potentially be utilized by ETC rights holders was solely a concept developed by the CAISO and was not reflected in the PTO operating instructions provided to the CAISO.[36]

As indicated in the prior section, the CAISO is able to provide the firm service specified in the ETCs without having to "set aside" unscheduled ETC capacity on the internal network in the Day-Ahead. Thus, the CAISO's proposal not to "set aside" unscheduled ETC capacity on the internal network is consistent with the operating instructions the PTOs provided to the CAISO, which operating procedures reflect the ETC terms the CAISO is required to honor.

4. The ETC Proposal For The CAISO Network Is Consistent With The Manner In Which The PTOs Honored ETC Rights Prior To Formation Of The CAISO

The CAISO's proposed accommodation of ETC rights is consistent with the manner in which ETC rights were managed prior to formation of the CAISO. Prior to formation of the CAISO, the PTOs operated their own control areas and provided transmission service to ETC rights holders in that context. The PTOs did not specifically "set aside" capacity for unscheduled ETC rights and withhold it from the market as the CAISO does today. Rather, the PTOs scheduled the capacity of their transmission systems in the most efficient manner to meet their needs, including the sale of capacity to non-ETC parties, and relied on their flexibility as control area operators to ensure that they would be able to provide the service required by their ETCs. If the ETC rights holder submitted schedule changes, the PTO would re-dispatch resources within its control area and curtail non-ETC schedules, if necessary, to accommodate ETC schedule changes in accordance with ETC terms. ETC rights holders were not compensated for the PTO's use of transmission capacity made available when ETC holders did not fully

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[36] Even though the CAISO was not obligated to implement a Day-Ahead "set aside" of capacity for ETCs, the CAISO opted to do so for several reasons. First, the CAISO desired to implement a simple, "worry free" approach that would guarantee that the CAISO would be able to accommodate *all* ETC schedules. Second, the CAISO did not want to implement a mechanism whereby Day-Ahead non-ETC schedules might need to be cut in the event ETC rights holders made post-Day-Ahead schedule changes. Third, applying the "set aside" approach in the context of the zonal market design appeared to be relatively straight forward, as it would only have to be applied to the interties and inter-zonal interfaces. Fourth, the CAISO did not expect that the ETC scheduling issue would remain for an extended period of time because the CAISO expected that the PTOs were going to renegotiate their ETCs. In that regard, CAISO Tariff Section 2.4.4.1.2 provided that the PTOs would attempt to negotiate changes to the ETCs to align the scheduling and operating procedures under the ETCs with the CAISO's scheduling and operating procedures. However, the ETCs have not been successfully renegotiated. Accordingly, a problem that was expected to go away, *i.e.*, the need to maintain different scheduling rules for ETCs and for non-ETC schedules, has remained. As the foregoing suggests, the CAISO voluntarily opted to implement a simple approach that was designed to limit the number of problems that the CAISO might encounter while accommodating ETCs under the zonal market design.

utilize their rights. The PTOs' approach to honoring ETC rights is consistent with the description of ETC rights described in Sections IV.B.2 and IV.B.3 *supra.*

Set forth below is a brief discussion of how the PTOs accommodated ETCs prior to the CAISO. This information is based on the public discussions with PG&E and SCE during the stakeholder process.

PG&E did not "set aside" ETC rights in the day-ahead for the sole use of ETC rights holders. PG&E accommodated post-Day-Ahead ETC schedule changes by redispatching its own resources to accommodate the ETC schedules when necessary. PG&E did not reimburse ETC rights holders for use of unscheduled ETC capacity. PG&E did not allow ETC parties to make sales of their ETC rights to third parties. Where ETC parties bought power and resold it to other parties, PG&E considered this to be a type of transmission merchant tolling service.

SCE did not "set aside" ETC rights in the Day-Ahead for the sole use of ETC rights holders. SCE re-dispatched resources in Real-Time, if necessary, to accommodate ETC schedule changes. SCE did not reimburse ETC rights holders for use of unscheduled capacity. SCE did allow ETC rights holders to sell unscheduled capacity to third parties, but some ETC rights holders were not allowed to sell this unscheduled capacity to retail entities (*e.g.*, large industrial users). With any sale of unscheduled ETC capacity to third parties, the ETC rights holder was the only entity that SCE would accept schedule changes from (*i.e.*, SCE would not accept schedule changes from or communicate scheduling matters with the third party).

The CAISO's ETC Proposal for the internal CAISO network manages ETC rights and utilizes transmission facilities to honor ETC rights in a manner that is consistent with how SCE and PG&E accommodated ETC schedules and schedule changes prior to the formation of the CAISO. Like PG&E and SCE, the CAISO will not withhold from the market capacity on the internal network that is not scheduled in the Day-Ahead. If the CAISO releases unscheduled ETC capacity to another user, the CAISO will re-dispatch resources in Real-Time, if necessary, to accommodate ETC schedule changes. This is essentially what PG&E and SCE did prior to the CAISO in order to accommodate last minute ETC schedule changes. PG&E and SCE were able to honor ETC schedules on their transmission networks (via re-dispatch if necessary) without having to "set aside" unscheduled ETC capacity, and when MRTU is implemented the CAISO will have the resources and the capability to do the same thing. Thus, there is no need for the CAISO to "set aside" transmission capacity on the internal network in the Day-Ahead market in order to fully honor ETC rights.

5. ETC Rights Holders Will Be Held Financially Harmless From Any Congestion Costs That Would Otherwise Arise Due To Implementation Of The ETC Proposal

The ETC Proposal also honors ETC terms because the "perfect hedge" mechanism will ensure that ETC rights holders are held financially harmless from any congestion costs that would otherwise apply to them as a result of implementation of the ETC Proposal. In Section IV.A.2, *supra*, the CAISO provided examples of how ETC transactions will be settled under the CAISO's ETC Proposal. As these examples demonstrate, the CAISO will calculate – and reverse in their entirety – all Day-Ahead and Real-Time congestion charges that would otherwise apply to ETC schedules and ETC schedule changes. This will provide ETC rights holders with a "perfect hedge" against congestion charges. Thus, the ETC Proposal not only fully preserves the ability of ETC rights holders to change their schedules and for the CAISO to provide the firm service specified in the ETCs, it holds ETC rights holders financially harmless from any congestion costs associated with ETC schedule changes.

6. The CAISO's Proposal Is More Protective Of ETC Rights Than Those The Commission Approved for MISO

As indicated in the information provided to the Commission in Docket No. ER04-928 and summarized in Attachment D, many of the ETCs are subject to modification based on a unilateral filing by the Participating Transmission Owner and a "just and reasonable" standard of review. As indicated in Attachment D, many of these Section 205 reservations are extremely broad and include all aspects of the agreement not just the specific charge for transmission service. In an order involving the Midwest ISO ("MISO"), the Commission required that all grand-fathered agreements ("GFAs") subject to a just and reasonable standard of review comply with MISO's scheduling protocols. The only GFAs that were exempted from MISO's generally applicable, open access Tariff scheduling protocols were GFAs that (1) explicitly provided for a *Mobile-Sierra* public interest standard of review, (2) were silent as to the standard of review, or (3) the entity providing the service was a public utility. *Midwest Independent Transmission System Operator, Inc.*, 108 FERC ¶61,236, at PP 142-43 (2004) ("MISO GFA Order"). Notably, the CAISO's proposal to fully honor the rights in existing contracts applies to all ETCs not just those ETCs with *Mobile-Sierra* provisions. Thus, the CAISO is proposing to continue to honor the contractual scheduling rights of all the ETCs, including those ETCs where the Commission can modify the agreement on a just and reasonable basis.

Moreover, the treatment the CAISO is proposing to accord to all ETCs is equal to or better than the treatment that the Commission approved for MISO's GFAs with *Mobile-Sierra* protections. In that regard, the Commission found that, in order for MISO to honor GFAs with *Mobile-Sierra* provisions, MISO had to "carve them out." The Commission stated that the "carve out" should include the following features in order for MISO to honor GFAs with *Mobile-Sierra clauses*: (1) the maximum MW capacity for each "carved-out" GFA should be removed from the model used for FTR allocation; (2) schedules submitted by the GFA parties in accordance with MISO's Day-Ahead timelines should not be subject to congestion charges; (3) MISO should incorporate the GFA parties' schedules into the Reliability Assessment Commitment procedures; and (4) MISO should allow parties to "carved-out" GFAs to settle Real-Time imbalances through the provisions of their GFAs instead of requiring that such imbalances be procured through MISO's Real-Time Energy market. The Commission also recognized that "carving out" meant that parties to GFAs would be permitted to exercise the scheduling provisions of their GFAs. MISO GFA Order at P 90.

The CAISO's proposed treatment of all ETCs – not just those with *Mobile-Sierra* rights – reflects the aforementioned four rights that the Commission found should be accorded to MISO's "carved-out" GFAs. Further, the CAISO is allowing all ETC rights holders to schedule service in accordance with the scheduling provisions of their ETCs. Thus, there is no basis to find that the CAISO's ETC Proposal fails to honor ETC rights. First, transmission capacity for each ETC will be removed from the model used for CRR allocation. The CAISO satisfies item (2) because all valid ETC schedules will be exempt from all Day-Ahead congestion charges. In fact, the CAISO's ETC Proposal goes beyond this requirement by exempting valid post-Day-Ahead ETC schedule changes from Real-Time congestion charges and from any uninstructed deviation penalties. Third, the CAISO will incorporate ETC schedules into its residual unit commitment procedure. Finally the CAISO satisfies item (4) because the ETC rights holder and the PTO can agree to settle Real-Time imbalances through their ETC or through the Imbalance Energy market. The Commission found that implementing these four features would honor all contracts with a *Mobile-Sierra* clause. The CAISO is applying these practices to all ETCs not just those with *Mobile-Sierra* clauses. Because the CAISO's ETC proposal is consistent with the treatment that the Commission required for "carved-out" GFAs in the MISO GFA Order, there is no rational basis to conclude that the ETC Proposal violates existing contract rights.

Importantly, the MISO GFA Order did not require MISO to physically "set-aside" unscheduled GFA capacity in order to effectuate the "carve-out." The MISO GFA Order recognized that MISO would utilize Real-Time re-dispatch of resources to accommodate "inefficient" post-Day-Ahead GFA schedules (and possibly order Transmission Loading Relief). MISO GFA Order at PP 91-99. As discussed in detail *supra*, the CAISO is essentially doing the same thing here. In that regard, the CAISO will re-dispatch resources, if necessary, to accommodate valid post-Day-Ahead ETC schedules. Thus, the CAISO proposes to honor all ETCs in a manner similar to that how the Commission directed MISO to honor GFAs with Mobile-Sierra clauses.

V. OTHER OPTIONS CONSIDERED BY THE CAISO TO HONOR ETCS

In addition to the ETC Proposal set forth herein, the CAISO considered several other general options for honoring ETCs under the new market design. These options are identified and discussed briefly below.

A. Extending the Current "Set-Aside" Approach to the Full Network Model

Several parties asserted that the CAISO should extend the current practice of "setting aside" transmission capacity for ETCs on a Day-Ahead basis on the inter-ties and today's inter-zonal interfaces to the entire network under MRTU. They argued, *inter alia*, that substantial quantities of ETCs will be expiring and, as such, any adverse impact of ETCs will be greatly reduced by the time LMP is implemented. On this point, it must be recognized that a reduction in the number or MW volume of ETCs will not lead to a reduction in the cost and complexity of implementing new procedures and systems to manage the Day-Ahead "set-aside" of unscheduled ETC capacity on the internal network in the LMP context. The required systems are the same no matter how small (or how large) the number of ETCs and the associated MW quantities. Based on discussions with the primary vendor for the MRTU market software, the CAISO estimates the cost of adding such functionality is likely to be in excess of one million dollars. Thus, the declining volume of ETC rights strengthens the argument *against* undertaking the development of systems to support the Day-Ahead "set-aside" of ETC capacity on the internal network. As the number of ETCs grows smaller, so does the population that will benefit from the additional functionality that would need to be created to perform the Day-Ahead "set-asides." Thus, the ETC expiration argument by stakeholders supports adoption of the approach proposed by the CAISO.

Stakeholders also argued that the failure to extend the current of "setting-aside" unscheduled ETC capacity to the entire network will result in a diminution of contractual rights. For reasons discussed *supra*, the CAISO submits that the ETC Proposal will result in no such diminution of ETC rights.

B. Creation Of A Recallable Transmission Service

Another option for honoring ETC scheduling rights that was discussed by the CAISO and Market Participants is creation of a "Recallable Transmission Service" ("RTS"). Under this approach, the CAISO would make available to the market, on a non-firm basis (*i.e.*, subject to recall prior to the operating hour), transmission capacity that was not scheduled by ETC holders in the Day-Ahead market but would be needed to accommodate valid post-Day-Ahead ETC schedule changes. The idea of implementing an RTS product has been discussed at different times during the history of the CAISO. There are several problems associated with RTS.

First and foremost, creating a new recallable transmission product to be allocated within the IFM would introduce complexity comparable to that of "setting-aside" transmission capacity for unscheduled ETC rights on the internal network. Parties considered the RTS option in the context of the Morgan Stanley proceeding and encountered difficult design issues, even in the context of today's much simpler zonal congestion management scheme. The two main types of issues raised were as follows: (1) design issues, specifically how to incorporate RTS in the transmission market, *e.g.*, whether to have separate bids for RTS or use bids for firm transmission that were not accepted, how to price RTS, how to establish a recall sequence among buyers of RTS when transmission must be recalled, and other issues; and (2) how to allocate the cost of implementing RTS so that the parties who utilize or otherwise benefit from RTS pay for its implementation. Parties to the Morgan Stanley proceeding abandoned that effort without resolving any of these issues. None of these problems would go away if the CAISO were to incorporate RTS into the new market design. Indeed, additional complex issues would arise under an LMP and FNM environment. In particular, if the CAISO has to "set-aside" internal transmission capacity and release it only as RTS, such a "set-aside" would not be practically different from the "set-aside" required under the capacity "set-aside" approach. Therefore, it would raise the same significant implementation concerns discussed above.

Finally, no other independent system operator provides a recallable transmission service. *See* MSC Opinion at 6.

C. APX Alternative

On August 10, 2004, the APX submitted an alternative proposal for consideration. The APX proposal (1) would require the CAISO to pay ETC rights holders for transmission capacity they had a right to schedule but chose to release for use by other parties, and (2) called for a process to be conducted by the CAISO for renegotiating the contracts so that they can be converted to common terms and conditions.

The CAISO does not support this approach. First, the APX proposal does not relieve the CAISO of the requirement to implement software functionality to "set-aside" unscheduled ETC capacity on the internal network in the Day-Ahead. Because the APX proposal would leave it to the discretion of the ETC holder whether or not to release the unscheduled transmission capacity, the CAISO would have to have the capability to reserve capacity that the ETC holders choose not to release. From an implementation standpoint this has all the problems of the reservations approach that were discussed earlier.

Second, there is no basis in prior Commission determinations for paying ETC holders for releasing unused ETC capacity. In that regard, in addressing the issue of ETC rights holders' entitlement to compensation by the CAISO for accepting schedules utilizing unscheduled ETC capacity, the Commission stated clearly and unequivocally in an October 1997 Order that

> [w]e disagree with DOE/OAK, TANC, Western and others who argue that the ISO should compensate those entities with existing capacity Entitlements for the use of that capacity in the hour-ahead market. Traditionally, if a customer did not utilize all of its transmission entitlement, the transmission provider and other third-party customers could utilize that capacity on a non-firm basis. In this instance, the ISO does not provide traditional non-firm transmission service. The ISO will only receive revenues for that capacity if there are Wheeling transactions that utilize the capacity or through Usage Charges. To the extent a rights holder has converted its rights to ISO rights, then it would receive its share of any Wheeling and Usage Charge revenues that arise from the use of its unused transmission entitlement. However, if a rights holder does not convert its rights over to the ISO, then that entity will not be entitled to any such Wheeling or Usage Charge revenues, to the extent that its Non-Converted Rights do not provide for such compensation.

October 1997 Order, 81 FERC at 61,471 (footnote omitted).

On rehearing, the Commission stated that TANC, Cities/M-S-R and Palo Alto appealed the above conclusion, arguing that the October 1997 Order:

> was based on the mistaken premise that the issue was limited to unused contract rights to transmission service. Proponents contend that, in addition, the ISO has taken an expansive view of its authority (under Section 2.4.4.5.1.6 of the ISO Tariff) to use, *without compensation*, transmission facilities owned by non-Participating TOs.
>
> The ISO answers that Proponents are mistaken. Section 2.4.4.5.1.6 of the ISO Tariff applies only to contractual reservations of capacity on transmission facilities and Entitlements of Participating TOs. Thus, the provision only authorizes the ISO to make available to other Market Participants unused transmission capacity associated with Existing Rights, *i.e.*, idle transmission capacity on the ISO Controlled Grid that had been reserved under an Existing Contract. Section 2.4.4.5.1.6 does not permit the ISO to make available to other Market Participants capacity on transmission facilities or Entitlements that have not been turned over to its Operational Control. Rather, ISO "control" over such facilities is limited to the implementation of operating instructions contained in Existing Contracts between investor-owned utilities that were operating control areas in California prior to the start-up of the ISO and non-Participating TOs. According to the ISO, former control area operators have provided operating instructions to the ISO with respect to these contracts, under which the ISO has carried out scheduling and other responsibilities.
>
> The Proponents reply that they "accept the ISO's explanation" of its authority under Section 2.4.4.5.1.6 of the ISO Tariff, and ask the Commission to accept this explanation as the proper interpretation of the provision.
>
> **Commission Response**
>
> Based on the representation of the parties noted above, we consider this matter resolved and will not be addressed here.

California Independent System Operator Corporation, et al., 101 FERC ¶ 61,219, at PP 84-87 (2002) ("Unresolved Issues Order").

In *California Independent System Operator Corporation*, 105 FERC ¶ 61,314 (2003), the Commission reached the same conclusion that it reached in the Unresolved Issues Order. There, Modesto Irrigation District argued that it was entitled to compensation when the CAISO utilizes unscheduled ETC capacity on Path 15 for new firm use. Citing its decision in the Unresolved Issues Proceeding, the Commission rejected MID's claim.

Thus, APX is raising a concern that has been previously decided by the Commission. Consistent with Commission precedent, ETC Rights Holders are not entitled to compensation when the CAISO accepts schedules utilizing unscheduled ETC capacity.

D. Midwest Independent System Operator Proposal For Managing Existing Contracts

At the May 13, 2004 stakeholder meeting, a representative from the Midwest Independent Transmission System Operator, Inc. ("MISO") presented a discussion of MISO's proposed treatment for "grandfathered contracts" (the MISO equivalent of CAISO's ETCs) within their footprint. For existing contracts that were not voluntarily converted to service under the MISO tariff, MISO offered three options:

(1) the party responsible for the grandfathered contract would be entitled to FTR allocation up to the MW capacity under the contract ("MISO Option A");
(2) MISO would charge the party responsible for the grandfathered contract the congestion costs for all transactions under the contract (up to real time), but then MISO would credit back the costs of congestion resulting from schedules that cleared the day-ahead market only. The party also would be refunded the difference between day-ahead marginal losses and average losses. There would be no allocation of FTRs for these unconverted grandfathered contracts ("MISO Option B");
(3) The responsible party would pay for marginal losses and the costs of congestion for all transactions without receiving reimbursements or FTRs. However, the responsible party would receive an allocation of marginal losses revenue ("MISO Option C").

As discussed in greater detail in Section III.B.6 *supra*, the Commission addressed MISO's GFA proposal in the MISO GFA Order. The Commission required MISO to "carve-out" for special treatment those GFAs with *Mobile-Sierra* clauses. The CAISO notes that its cost allocation proposal largely imitates MISO's Option B, but goes further than MISO's Option B by reversing Real-Time congestion charges for valid post-Day-Ahead ETC schedule changes in addition to reversing day-ahead congestion charges.[37] Further, unlike MISO, the CAISO proposes to fully honor the existing rights of all ETC rights holders, not just those whose contracts contain *Mobile-Sierra* clauses.

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[37] In its October 18, 2004 filing in Docket Nos. ER04-691, *et al.* to comply with the MISO GFA Order, MISO revised its treatment of "carved-out" GFAs to provide that such "carved-out" GFAs would also be exempt from Real-Time congestion charges (not just Day-Ahead congestion charges). Thus, the CAISO's treatment of all ETCs is comparable to the treatment that MISO is proposing to accord only to "carved-out" GFAs with *Mobile-Sierra* clauses.

E. PJM's Treatment of Existing Contracts

The CAISO also had discussions with PJM regarding their treatment of existing contracts. Most of the existing contracts in PJM converted to service under the PJM Tariff and were issued Obligations CRRs. For any remaining existing contracts that did not convert, PJM does not "set-aside" capacity in the Day-Ahead market, and non-converted contracts are accommodated in real-time to the extent that they do not compromise reliability. Holders of existing contracts are not compensated for the use of their unscheduled contractual transmission rights by other parties.

The CAISO's ETC proposal shares many similarities with PJM's treatment of existing contracts. In particular, the ETC Proposal would not "set-aside" capacity in Day-Ahead for the sole use of ETC rights holders.

VI. IT IS CRUCIAL THAT THE COMMISSION EXPEDITIOUSLY APPROVE THE ETC PROPOSAL

Treatment of ETCs in the overall market design cannot be considered independent of other aspects of operating a transmission market reliably, transparently and without undue discrimination. As such, ETC functionality must be developed simultaneously with certain other software components to assure both the equitable treatment of ETC rights as well as their seamless integration with the overall market functionality. This requires that the development and testing timelines for ETC functionality correspond with the balance of the market redesign system development and overall MRTU program schedule.

While it may seem that a deployment date over two years from now – in February 2007 – would provide ample time to resolve design issues, this could not be further from the truth. Working backwards from February 2007 the following high-level tasks are scheduled:

Date	**Activity**
February 2007	Go Live
January 2007	Code freeze and system preparation
September 2006 through December 2006	Market Simulation
July 2006 through August 2006	User Acceptance Testing
May 2006 through June 2006	End to End Testing
January 2006 through April 2006	System Integration and testing
July 2005 through December 2005	Site Acceptance Testing of individual systems at CAISO
March 2005 through November 2005	Factory Acceptance testing of individual systems at vendor sites
December 2004 through August 2005	Unit testing at vendor sites
July 2004 through July 2005	Code Development

While there can be some overlap of development and testing activity in the earlier stages of vendor work, all software must be complete for integration testing and all subsequent steps.

The CAISO is now at a critical juncture with key vendors regarding detailed design and development in order to maintain the current MRTU program schedule. The CAISO has proceeded in the design process with key vendors, specifically those vendors engaged in the development of the core market system, based on the presumption that its proposed treatment of ETCs honors the existing contract terms without a diminution of rights and, as such, will be approved in concept by the Commission. In particular, the treatment of ETC schedules must be built into the Integrated Forward Market ("IFM") and Settlements and Market Clearing ("SaMC") software. Development (writing software code) for both of these projects has already commenced, and the vendors are working within the confines of a tight timeframe to complete development and perform testing prior to turning their products over to the CAISO for system integration and testing by January 2006.

Relatively minor changes to the ETC Proposal that affect software development could possibly be accommodated through mid-2005 without a major impact to the overall MRTU schedule. For example, the design schedule has accommodated changes to the ETC Proposal over the last six months where CAISO staff engaged in policy resolution have been in close contact with staff engaged in systems development to assure that any changes in design will not have a negative impact on the implementation schedule. However, changing the design to require the CAISO to "set-aside" unscheduled transmission capacity in the CAISO network would constitute a major change to the design that the CAISO has been pursuing up until now. Such a change(s) would likely (1) require the design and development of a separate system that heretofore has not been contemplated or considered with any level of detail, and (2) move the implementation schedule beyond February 2007. The fact that a conceptual design for ETCs has not been finalized and accepted by the Commission already poses a risk to the overall MRTU project schedule. Delay in ruling on this matter would exacerbate that risk, and the delay that comes from a directive to change the ETC Proposal can, at this point, only serve to impose a delay in implementing the overall MRTU project. The CAISO therefore requests that the Commission issue a ruling approving the ETC Proposal no later than February 18, 2005.

VII. 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 in Docket No. ER04-928 and has posted a copy of the filing on its Home Page.

VIII. 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:

Charles F. Robinson General Counsel Anthony J. Ivancovich Associate General Counsel California Independent System Operator Corporation 151 Blue Ravine Road Folsom, CA 95630 Tel: (916) 351-4400 Fax: (916) 608-7296	J. Phillip Jordan David B. Rubin Bradley R. Miliauskas Swidler Berlin Shereff Friedman, LLP 3000 K Street, N.W. Washington, D.C. 20007 Tel: (202) 424-7500 Fax: (202) 424-7647

IX. SUPPORTING DOCUMENTS

Attachment A	Amended Comprehensive Market Redesign Proposal For Honoring ETC rights
Attachment B	Summary of Stakeholder Comments on the Revised White Paper
Attachment C	Market Surveillance Committee Opinion on the CAISO's ETC proposal
Attachment D	Matrices reflecting review of ETC terms and conditions
Attachment E	Notice of Filing

Respectfully submitted,

Bradley R. Miliauskas

Charles F. Robinson General Counsel Anthony J. Ivancovich Associate General Counsel California Independent System Operator Corporation 151 Blue Ravine Road Folsom, CA 95630 Tel: (916) 351-4400 Fax: (916) 608-7296	David B. Rubin Bradley R. Miliauskas Swidler Berlin Shereff Friedman, LLP Washington, D.C. 20007 3000 K Street, N.W. Tel: (202) 424-7500 Fax: (202) 424-7647

ATTACHMENT A

ATTACHMENT A

DETAILS OF THE CAISO'S PROPOSAL FOR HONORING ETCS

1. This Attachment provides a self-contained summary of the CAISO's proposal for honoring Existing Transmission Contracts ("ETCs") under the comprehensive market redesign based on Locational Marginal Pricing ("LMP") to be implemented as part of the CAISO's Market Redesign and Technology Upgrade project ("MRTU"). In requesting Commission approval of this ETC Proposal, the CAISO specifically requests approval of the provisions set forth in this Attachment A.

2. This ETC Proposal distinguishes between ETCs and Transmission Ownership Rights ("TORs") and addresses the former but not the latter. The ETCs addressed by this proposal are Existing Contract encumbrances of the CAISO Controlled Grid turned over to the CAISO Operational Control by the Participating Transmission Owners ("PTOs"). In contrast, TORs are Existing Contracts that establish joint ownership or direct ownership of transmission facilities that are within the CAISO Control Area but have not been turned over to CAISO Operational Control. The CAISO intends to submit a TOR proposal to the Commission at a later date. Thus, the Commission should defer any decision regarding the treatment of TORs until after the CAISO submits its filing on TORs.

A. Overview

3. This ETC proposal has three main components: (1) scheduling the use of ETC rights in the CAISO markets; (2) settlement and allocation of CAISO charges associated with ETC schedules; and (3) validating that ETC schedules submitted to the CAISO are consistent with the ETC holders' contractual rights.

4. With respect to component (1), the CAISO will "set aside" unscheduled ETC capacity on the interties in the Day-Ahead market. However, the CAISO will not "set-aside" unscheduled ETC capacity on the internal network, including Paths 15 and 26.

5. With respect to component (2), the CAISO proposes a new "perfect hedge" settlement mechanism that fully exempts valid ETC schedules from *all* CAISO congestion charges (*i.e.*, both Day-Ahead and Real-Time congestion charges). Thus, ETC rights holders will be held financially harmless from congestion charges associated with the implementation of LMP and the ETC Proposal.

6. Charges other than Congestion charges will be the subject of further discussion as the CAISO develops its MRTU Tariff filing in 2005 and are not addressed specifically in this ETC Proposal.

7. With respect to component (3), the CAISO is proposing to provide an automated procedure for verifying that submitted schedules utilizing ETC rights are consistent with a set of parameters specified by the seller of the contract. This automated procedure is

intended to relieve the contract seller of the need to validate ETC schedules on a day-to-day basis, while still holding the seller responsible for providing validation data to the CAISO that correctly reflect contractual rights.

These three components are described in full detail in the following sub-sections.

B. ETC Scheduling

8. Under the ETC Proposal, the Scheduling Coordinator ("SC") for an ETC will submit balanced[1] self-schedules[2] for that ETC to the CAISO Markets. This requirement will apply to ETC schedules submitted to the Day-Ahead and Hour-Ahead markets and post-Hour-Ahead where permitted under the contract.

9. Valid ETC schedules[3] will be given scheduling priority over other users of the CAISO Controlled Grid in the Day-Ahead and Hour-Ahead markets.

10. The CAISO will continue to "set-aside" unscheduled ETC capacity on all interties with external control areas (*e.g.*, COI , Palo Verde, *et al.*) in the Day-Ahead market in a manner similar to how it does today. The CAISO will "set -aside" ETC capacity as follows: (1) unscheduled ETC capacity on the interties will be "set-aside" in the Day-Ahead for those ETCs that provide for rights at the interties and permit the ETC holder to submit schedule changes after the Day-Ahead; (2) "unscheduled ETC capacity" on any given intertie in any given operating hour will be defined as the quantity of transmission capacity that is the difference between the ETC holder's maximum scheduling right under the contract for that intertie at that hour and its actual Day-Ahead schedule on that intertie for that hour; (3) "set-aside" capacity will be withheld from the Day-Ahead market as it is today, *i.e.*, by reducing the Available Transmission Capacity ("ATC") on the relevant intertie for the relevant operating hour by the "unscheduled ETC capacity" quantity[4]; and (4) "set-aside" capacity will be withheld from the market until the deadline

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1 It is important to note that the balanced schedules required of ETCs under MRTU are not the same as the balanced schedules required of all SCs under the CAISO's existing market design. Today each SC's total portfolio of demand and supply resources must be balanced when submitted to the CAISO for scheduling, and will remain in balance after the CAISO runs its forward markets and publishes final schedules. In contrast, under MRTU balanced schedules are no longer a general requirement for all SCs. However when a SC submits a schedule for an ETC, the demand and supply for that ETC must be balanced. This requirement does not preclude the SC from submitting a schedule that includes additional demand and/or supply that may not be balanced, as long as the demand and supply elements for any given ETC within that SC's schedule are labeled as such with a unique ETC identifier and are balanced.

2 In the context of MRTU, "self-schedules" are MW injection and withdrawal quantities submitted to the CAISO by the SC without associated price bids.

3 Criteria for determining whether a submitted ETC schedule is valid will include: eligible injection and withdrawal locations, maximum MW quantities and applicable scheduling deadlines, as well as other criteria that may be appropriate to any given ETC. All references in this document to "valid" ETC schedules or schedule changes assume that all applicable criteria have been met.

4 On provision (3) this ETC Proposal differs somewhat from today's practice. Today the CAISO "sets aside" transmission capacity on each intertie in an amount equal to *the total amount of ETC rights*, without regard to the ETC holders' Day-Ahead schedules. Under MRTU, the CAISO will manage the scheduling priority for Day-Ahead ETC schedules in the context of the Integrated Forward Market ("IFM")

for making schedule changes, as specified in the particular ETC, elapses. The CAISO's proposal will not grant any rights to ETC rights holders in excess of those rights provided for in their contracts.

11. The CAISO will not "set aside" any transmission capacity on today's internal inter-Zonal interfaces (*i.e.*, Path 15 and Path 26) or on any other internal transmission[5] for ETC rights holders.

12. In the Hour-Ahead, ETC schedule changes will be given priority over non-ETC Hour-Ahead schedule changes. Valid hour-ahead ETC changes will be accepted as fully as possible in the HASP as long as such changes do not require modifying any final Day-Ahead schedules, ETC or non-ETC.

13. Any portion of a valid Hour-Ahead ETC schedule change that cannot be accepted in the Hour-Ahead market will be accepted as a Real-Time ETC schedule change. In addition, where the contractual rights allow, ETC rights holders will be able to submit, and the CAISO will accept, further schedule changes after the Hour-Ahead market closes. The final deadline for submission of Real-Time ETC schedule changes will be the earlier of 20 minutes prior to the start of the operating hour (T-20) or the deadline specified in the particular contract. In the Real-Time economic dispatch process, the CAISO will re-dispatch non-ETC resources relative to their final Hour Ahead schedules as necessary to accommodate valid real-time ETC schedule changes and any remaining portions of valid Hour-Ahead ETC schedule changes that were not fully accommodated in the Hour-Ahead market.

14. The withdrawal side of ETC schedules will be scheduled at specific network nodes consistent with their contractual rights or, if applicable, at the interfaces of a metered subsystem. This provision is necessary to represent ETC usage of the CAISO grid in an accurate manner in the congestion management process and to ensure that the scheduling priority accorded to ETC schedules is consistent with the definition of their contractual rights.

C. Settlement and Allocation of CAISO Charges

15. The CAISO will apply a "perfect hedge" mechanism for settling the congestion charges associated with valid ETC schedules and schedule changes. The essential feature of the perfect hedge is to apply an exact reversal in CAISO settlements of the congestion charges associated with a valid ETC schedule in the Day-Ahead market or a valid post-Day-Ahead ETC schedule change. The result is that ETC rights holders will not pay any CAISO congestion charges associated with valid ETC schedules and schedule changes.

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optimization, and will only need to "set-aside" capacity for the amount by which ETC rights exceed Day-Ahead ETC schedules.

[5] The CAISO currently "sets aside" capacity on the two inter-Zonal interfaces, Path 15 and Path 26, but does not "set aside" unscheduled ETC capacity on intra-Zonal transmission facilities.

16. There are two primary aspects to how the perfect hedge mechanism will work, one pertaining to Day-Ahead ETC schedules (and Day-Ahead congestion charges) and the other pertaining to post-Day-Ahead ETC schedule changes (*i.e.*, Hour-Ahead and post-Hour-Ahead changes, both of which will accrue Real-Time congestion charges). From the viewpoint of the SC for the ETC, there are no differences between the Day-Ahead and post-Day-Ahead aspects. The difference lies in how the costs of the perfect hedge are re-allocated to the market.

17. In the Day-Ahead market, the congestion charges associated with a valid Day-Ahead ETC schedule will be reversed in settlement on an hourly basis. Because Day-Ahead congestion charges are paid out to CRR holders, the non-collection of congestion charges from Day-Ahead ETC schedules could result in a revenue shortfall for CRR holders unless some corrective measure is put in place. To ensure that the non-collection by the CAISO of these congestion charges does not create systematic revenue inadequacy for non-ETC CRR holders, the CAISO will model ETC CRR obligations along with other non-ETC CRR requests in the simultaneous feasibility test in the CRR allocation process. Thus, the CRR allocation process will create CRRs corresponding to the ETC holders' usage of the grid. The CAISO will not release these ETC CRRs, however; rather, the creation of these CRRs will just be a mechanism to constrain the release of non-ETC CRRs in a manner that anticipates ETC grid usage and therefore supports the revenue adequacy of the non-ETC CRRs. Further, under this proposal, ETC congestion charges that are negative (*i.e.*, when the ETC schedule creates a counter-flow that reduces grid congestion) will also be reversed in settlement, *i.e.*, will not be paid by the CAISO. Thus, the proposal keeps the ETC SC perfectly financially neutral on an hourly basis with respect to the Day-Ahead congestion charges associated with ETC schedules.

18. In the Real-Time market, the congestion charges associated with a valid post-Day-Ahead ETC schedule change (including changes submitted to the Hour-Ahead and changes submitted closer to Real-Time where allowed by the contract) will be reversed in settlement on the standard Real-Time 10-minute interval basis. Because congestion charges are implicitly collected by the CAISO in the Real-Time settlement and there are no holders of rights to receive Real-Time congestion revenues under the MRTU design, all charges for Real-Time congestion will be accumulated in a special and separate neutrality account to be distributed back to non-ETC metered demand and exports on a per-MWh basis. Obviously, the reversal of Real-Time congestion charges for ETCs will reduce the amount of funds going into this neutrality account and, thus, the congestion costs of these post-day-ahead ETC changes will be spread over all non-ETC load and exports. This impact should be limited, however, by the fact that ETC load and exports do not receive a share of this account, which is appropriate because they do not pay into it. Finally, as in the Day-Ahead market, negative Real-Time congestion charges as well as positive ones will be reversed for ETCs in settlement. Thus, the proposal keeps the ETC SC perfectly financially neutral on a 10-minute basis with respect to the Real-Time congestion charges associated with post-Day-Ahead ETC schedule changes.

19. Because the ETC schedules will not be subject to any congestion charges under the perfect hedge mechanism, it will not be necessary or appropriate to allocate CRRs or provide any other type of congestion hedging mechanism to ETC holders or their SCs.

D. Validation of ETC Schedules

20. In the context of the ETC Proposal, validation means verifying that submitted ETC schedules and schedule changes are fully within the contractual limits specified in the ETCs with regard to eligible injection and withdrawal locations, maximum MW quantities, scheduling deadlines, and other relevant parameters.

21. There are two aspects of the ETC Proposal for which validation is important – scheduling priority and settlement. Valid ETC schedules and schedule changes will receive special treatment with respect to both aspects. If it were only a matter of settlement treatment, validation could be performed after the operating day, in the course of processing the scheduling and operating data for the settlement process. However, because scheduling priority is involved, there must be *ex ante* validation, *i.e.*, validation at the time of the relevant scheduling deadline prior to the running of each CAISO market, to ensure that the market software provides priority only to ETC schedules that comply with contractual rights.

22. The CAISO's July 22, 2003 proposal required the PTOs who are the sellers of the ETC rights to take full responsibility for ensuring that each ETC schedule submitted to the CAISO is valid. The present proposal retains that approach as one option and also offers an alternative approach whereby the CAISO will perform day-to-day verification that submitted ETC schedules are within contractual rights, as long as the requisite data is provided by the contract seller, *i.e.*, the PTO, to serve as the basis for this verification. This new approach is offered as an option for those ETCs where it is appropriate and workable, but will not preclude the approach proposed in the July 22, 2003 filing, *i.e.*, full PTO responsibility for ETC scheduling and schedule validation – for those ETCs where that approach is most appropriate. For example, in the case of an ETC whose scheduling rights are not readily captured in the type of data file needed for the CAISO's automated procedure, it may not be possible to use the automated procedure.

The automated validation procedure will work as follows.

23. Each ETC will have a unique ID number that must be used on all scheduled quantities of supply and demand for which treatment as an ETC is desired by the SC. The SC may submit multiple self-schedules for multiple ETCs as well as non-ETC schedules and bids under its SC-ID, so long as each ETC injection and withdrawal quantity in the SC's submission is flagged with the correct ETC ID.

24. The unique ETC ID will correspond to an ETC-specific parameter table provided by the relevant PTO that will be used by the CAISO for ETC schedule validation. The table will contain the details of the ETC holder's rights, expressed in terms of eligible injection and withdrawal points, maximum MW, allowable scheduling deadlines and

possibly other data as appropriate to any specific ETC. The PTO will be responsible for the accuracy of the contents of the parameter table provided to the CAISO.

25. The PTO responsible for each ETC shall provide the contents of the validation table simultaneously to the CAISO and to the ETC rights holder well in advance of the CAISO markets in which the data must be used. Thus, CAISO validation of ETC schedules will essentially constitute an automated execution of PTO instructions without CAISO interpretation or discretion. Any disagreements between the PTO and the ETC holder should be identified by the parties and should be resolved in advance, and outside, of the day-to-day operation of the CAISO markets.

26. In the Day-Ahead market, ETC schedules must be submitted as balanced self-schedules, *i.e.*, equal MW quantities of ETC injections and withdrawals at specific grid locations with no associated bid prices. ETC load that is internal to the CAISO grid will schedule at the actual load location and will not utilize Load Aggregation Points ("LAPs").

27. In the Day-Ahead process, upon receiving the ETC schedule, the CAISO will use the ETC ID to retrieve the ETC-specific parameter table and the CAISO will then determine whether the submitted ETC schedule is valid. Specifically, the injection and withdrawal locations and the MW quantities must be consistent with the data in the table, and total injections and withdrawals must be balanced. If the submitted schedule is valid, it will be accepted for input to the Day-Ahead IFM.

28. If the submitted schedule is not valid, the CAISO could perform simple adjustments, or could simply reject the schedule.[6] In either case, the CAISO will inform the SC in a timely fashion that the schedule was found to be invalid and will specify the action taken by the CAISO. The CAISO does not propose any specific resolution at this time to the question of possible modifications the CAISO might perform to invalid ETC schedules, but intends to pursue the issue with the ETC parties prior to filing the MRTU tariff language to determine how best to deal with submitted ETC schedules determined to be invalid. Any approach must be consistent with the CAISO objectives of minimal complexity, full automation and transparency on the CAISO side, and must ensure that any disputes regarding use of ETC rights are handled by the contracting parties.

29. In the Hour-Ahead and post-Hour-Ahead, essentially the same verification is performed as in the Day-Ahead process, with the additional criterion that ETC schedule changes must be submitted within scheduling deadlines specific to their contracts.

30. From the CAISO's perspective on this automated validation procedure, it is critical that (1) the contract sellers (*i.e.*, PTOs) be responsible for the accuracy of the data files against which the CAISO validates ETC schedules, (2) each ETC data file be provided to the ETC rights holder and the CAISO simultaneously, to enable any disagreements between the contracting parties to be resolved outside of the CAISO's day-to-day markets and operations, and (3) the CAISO procedures lend themselves to full automation, to

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[6] The CAISO intends to engage in further discussions with stakeholders on this subject.

maximize transparency and eliminate the need for CAISO discretion in the validation process.

ATTACHMENT B

ATTACHMENT B

Summary of Stakeholder Comments
On Revised ETC White Paper
Issued September 20, 2004[1]

San Francisco Bay Area Rapid Transit District (BART)

- The ISO's ETC proposed scheduling mechanism is satisfactory.
- BART supports the Perfect Hedge option.
- BART strongly supports the position that ETC holders should continue to realize all the benefits of their contracts.
- BART's ETC is a network OATT. One concern is that the ISO will adopt a system of network nodes (injection and takeout points) that is not compatible with BART's rights to network service.

California Municipal Utilities Association (CMUA)

- Phantom congestion costs have not been proven or quantified.
- Unused capacity is not a significant problem. ISO's analysis shows at most only 250 MW of unused ETC capacity might be available in DA on COI and PV.
- Most ETCs are on the interties. The radial nature of interties would not impact every network branch in the full network model.
- MISO is carving out capacity for 9.6% of its load while reliably operating its Energy and FTR markets with LMP.
- There are several prudent reasons why ETC holders don't schedule their full capacity rights.

California Public Utilities Commission (CPUC) Staff

- CPUC staff continues to support the ISO's revised proposal.
- ISO's revised proposal demonstrates that it will honor ETCs.
- CPUC staff supports the Perfect Hedge proposal on a conceptual basis, provided that the ISO ensures that under-collection of DA congestion charges doesn't harm revenue adequacy for non-ETC CRRs.
- Allocation of costs to all metered load and exports is appropriate; all metered load and exports will benefit from the ISO's revised proposal.
- This proposal will result in greater reliability because the ISO will run a market with more feasible schedules.

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[1] The written documents submitted by stakeholders in response to the September 20, 2004 Revised White Paper is posted on the CAISO website at:
http://www.caiso.com/docs/2004/04/26/200404261137482530 0.html

- ISO's current method of honoring ETCs through reservations results in significant market inefficiencies and phantom congestion.
- CPUC staff commends the ISO's efforts in developing a proposal that will dramatically reduce phantom congestion and honors contracts.
- CPUC staff supports the ISO's efforts in moving forward toward the implementation phases of this proposal.
- CPUC is initially opposed to continuing reservations on the interties because it would seem to undermine the ISO's revised proposal.

City and County of San Francisco (CCSF)

- Congestion costs are not the only impact of this ETC proposal upon the city's contract with PG&E.
- MRTU would diminish other contract rights.
- ETC holders with firm transmission contracts would experience new risk of curtailment.
- New marginal loss calculation will increase costs for ETC holders. If ETC holders are charged directly for marginal losses, they will be the only load paying a pure marginal loss charge.
- ETC loads will be the only loads on the system to be charged nodal RT energy prices for HA changes accommodated in RT.
- ISO should identify all charges to ETC holders under MRTU, including uninstructed deviation penalties, reliability services procurement uplift and neutrality adjustment charges.
- S.F. fully supports the Perfect Hedge approach.
- S.F. supports a policy that would allow for entity other than PTO to schedule and validate ETCs.
- The ISO should continue this stakeholder process without seeking FERC approval of this inchoate and costly proposal.

City of Azusa

- ISO has not expended sufficient time and resources to analyze whether its proposal will engender market efficiencies.
- Redispatch costs may be another type of market inefficiency.
- More detailed studies should be conducted on potential harms to loads that may result from this proposal.

Electricity Oversight Board (EOB)

- EOB generally supports the ETC Proposal presented in Sept. 20 Revised White Paper.

- This ETC proposal is a reasonable approach to honoring ETC rights and will likely increase efficient use of the transmission system.
- No ETC holder has demonstrated their rights preclude others from using transmission capacity that goes unused by the ETC rights holder.
- ISO proposal fairly and fully honors ETC rights.
- EOB does not support development of a recallable transmission product.
- EOB does not support APX alternative because it fails to justify why ETC holders are due compensation. The APX alternative also allows for gaming opportunities since an ETC holder could attempt to reserve some capacity to cause congestion, while being compensated for releasing transmission capacity.
- EOB supports the "Perfect Hedge" option of cost allocation.
- EOB supports validation of ETC schedules by the CAISO, not a third party.

Imperial Irrigation District (IID)

- Revised White Paper shows considerable progress in the CAISO proposal, but still falls short.
- "Perfect Hedge" option does not resolve all charges, including loss calculations.
- "Perfect Hedge" option does not resolve whether or not ETC holders can resell unused transmission.
- ETC holders should be able to file DA schedules, then post remaining transmission on wesTTrans OASIS. This would induce ETC holders to make available capacity because they would be paid for third parties' use of transmission rights.
- The ISO should release its policy on TORs before seeking FERC approval of the ETC Conceptual Proposal.

Los Angeles Department of Water and Power (LADWP)

- ISO proposal does not honor ETC financial and reciprocal transmission access rights.
    - LADWP and the ISO have previously agreed to waive all charges except for losses.
    - SCE has invoiced LADWP $1 million/month for ISO charges; thus it's impossible to convince LADWP that it won't be exposed to millions of dollars in more unfair charges.
    - An amendment to the Interconnected Control Area Operating Agreement (ICAOA) would demonstrate to LADWP that its financial neutrality would be preserved.
    - ISO's proposal would abrogate ICAOA by taking transmission to which the ISO has only non-firm rights and selling that transmission as firm. ETC capacity has already been sold once as firm transmission, and the ISO proposes to sell the same capacity as firm transmission a second time

-- as "new firm use." In so doing, LADWP would be unable to utilize this capacity for native load as intended by the ICAOA.
- Before the ISO was created, SCE used unscheduled ETC capacity on PACI as non-firm. Capacity north of COI could be liberated for use by LADWP when non-firm schedules were bumped. The current practice of reservations by the ISO is similar to this pre-ISO situation.
- ISO's proposal would convert non-firm to firm without any reciprocal benefit to LADWP. The ISO would refuse to let LADWP exercise its contractual rights after the DA market.
- LADWP has rights to sell its ETC capacity as firm to third parties. The ISO's proposal would prevent LADWP from selling excess ETC capacity through its OASIS, thereby losing valuable financial rights conferred by contract.
- ISO proposal would degrade reliability because LADWP would be unable to use ETC for emergency native load needs.
- ISO would circumvent the reliability intention of NERC tags in labeling transactions that were actually non-firm.
- ISO's use of non-firm transmission should require additional ten-minute reserves, per WECC MORC.

- ISO's cost allocation proposal should exclude exports because LADWP receives no benefits from elimination of phantom congestion.

- ISO has not demonstrated how over-collection of losses will be redistributed to wheel-through ETC transactions.

- ISO is ignoring reasonable alternatives.
  - ISO refuses to evaluate RTS or wesTTrans.net, cavalierly characterizing them as interim or supplemental measures.

- ISO is overstating the difficulty of carving out ETCs.
  - PJM already carves out some ETCs, according to statements from Aug. 31 stakeholder meeting.
  - MISO will carve out 10% of its load.
  - Reservations of ETC capacity do not cause inefficient transmission use.
  - The ISO overstates the software difficulty in carving out ETCs, and negates benefits of carve out to market participants.

<u>Modesto Irrigation District (MID)</u>

- Since ISO is uncertain if and when LMP will be implemented, integration of ETCs is not justified.
- ISO scheme to "honor" ETCs creates unjustified costs and then arbitrarily spreads them to all consumers.

- ISO has not provided updated economic impacts of ETCs. ISO should credibly assess costs and benefits of the perceived problem with ETCs.
- ISO's proposal to subordinat ETCs to market experiments is contrary to FERC's order on Amendment No. 2.
- ISO proposal goes too far, too fast, and ISO should reconsider.

The Metropolitan Water District of Southern California (MWD)

- Metropolitan supports the ISO proposal in concept.
- Perfect Hedge option reflects a balanced compromise for all concerned.
- ISO's proposal is consistent with the manner in which the original PTOs implemented ETCs prior to ISO operation.
- Redispatch costs are fairly allocated to the metered demand and exports who would have benefited from the use of ETC capacity.
- ETC rights holders will receive a full reversal of congestion charges, even if the ISO underestimates the amount of ETC capacity ultimately used.
- Metropolitan supports the ISO's proposal for automated validation. The ISO should flag any potential problems now with ETC validation in a full network model. There should be ample time to resolve them before MRTU implementation.
- LSEs that have benefited from interconnected transmission systems should share in the redispatch costs.
- The ISO should expedite its review of ETC expirations from data submitted to FERC because it would reveal the magnitude of the ETC issue in 2007.
- This ETC proposal should remain durable for at least five years because frequent Tariff changes make it difficult for LSE's to plan.
- ISO should issue white paper describing proposed treatment of TORs soon.

Pacific Gas & Electric (PG&E)

- PG&E supports ISO's goal for reducing phantom congestion and increasing efficient use of grid while honoring ETCs.
- PG&E strongly encourages the ISO to adopt key features of the revised ETC proposal at the earliest opportunity, as benefits could be realized under the current zonal system. With scheduled Path 15 upgrade, now would be ideal time to verify the effectiveness of the ISO's proposal.
- PG&E strongly supports the ISO proposal to allocate congestion costs to all grid users because everyone benefits from the release of the unused capacity.
- PG&E also would support the allocation of costs to SCs whose transactions directly use the congested path and benefit most directly from increased capacity.
- ISO should identify all costs related to ETCs and clarify how these costs will be allocated.

- ISO should upgrade existing software for scheduling ETCs so SCs can schedule multiple SC ID's from one workstation.
- PG&E can accept options for an automated validation process using a simple data file, or a daily validation by the PTO. PG&E also can accept daily validation by the ETC rights holder who is the SC, subject to the periodic audits by the PTO with ISO cooperation.
- Proposed schedules that fail an automated validation process should be rejected and both parties to the ETC should be notified.
- PG&E sees no benefit to validation by a third-party.

Southern California Edison

- Revised White Paper has considerable merit.
- Honoring ETCs through RT re-dispatch is similar to the way IOUs honored ETCs in the pre-ISO paradigm.
- All loads benefit from the improved utilization of transmission capacity.
- SCE strongly supports only the Perfect Hedge proposal. This is the most feasible way to allocate ETC-related costs to all load.
- SCE opposes the CRR allocation option. SCE opposes allowing SCs to have a choice between the Perfect Hedge or the CRR allocation option.
- ISO should provide a list of potential charges to which ETCs would be subject in MRTU and how these charges would be treated.
- SCE believes the three validation methods proposed in the Revised White Paper are reasonable.
- SCE believes all of its ETCs can be described in a data file format that can be validated automatically daily.
- If a third party is used for performing daily validation (in limited cases where the ETC cannot be described in a data file format,) the third party should be the choice of the ETC holder or the PTO.
- SCE believes the ISO should reject schedules that fail the automated ETC validation process and communicate this action to the ETC SC. Any other action could result in unintended financial impact.

San Diego Gas & Electric (SDG&E)

- Ideally, ETCs should be reformed so that ISO's protocols apply equally to all market participants.
- Reversing ETC-related congestion charges seems to provide no incentive for ETCs to schedule efficiently. Thus, phantom congestion may not be reduced and non-ETC parties may be adversely affected.
- The ISO should use industry experts (LECG) to evaluate this ETC proposal, especially the incentives and potential for gaming opportunities.

- ISO must make every effort not to interpret ETCs nor become embroiled in disputes over the ETCs terms and conditions.
- ETC-related costs should be allocated to the load and exports of the PTOs who are party to the ETCs.

Silicon Valley Power (SVP)

- ISO has listened to stakeholders and is striving for a mutually acceptable solution.
- ETC rights holders should be held harmless in all regards and contractual rights must be fully honored.
- FERC's requirement for a demonstration that COTP treatment is not unduly discriminatory is not consistent with honoring contracts.
- SVP supports the distinction between ETCs and TORs.
- Phantom congestion has not been proven nor have the costs been quantified.
- MRTU is apt to increase complexity, chaos and costs of ISO markets.
- Locational pricing provides ineffective investment signals. TOs and generators may have disincentives to resolve congestion. Many ISOs do not lower costs, incent infrastructure or improve reliability.
- SVP is glad to see ISO recognizes the uniqueness of intertie ETCs as opposed to intra-zonal ETCs.
- If COI were fully utilized, why does ISO believe there must be a schedule or entity north of COB that did not reserve transmission?
- Ex ante validation appears to bring more complexity and should be discussed more.
- Perfect Hedge settlement should be performed with the TOs and not with the contract holders.
- ISO should learn to manage ETCs better. ISO could start by using 50% of unscheduled DA capacity and then scheduling remaining requirements in RT. ISO could observe ETC usage in congested areas and fine-tune ETC management.
- ISO should determine which ETCs are the most troublesome for operating the grid more efficiently, and then negotiate with that ETC holder.

CA Dept of Water Resources/ State Water Project (SWP)

- "Perfect Hedge Option" is closer than previous proposals in preserving the benefits and burdens of ETCs.
- "Perfect Hedge Option" is more consistent with pre-ISO scheduling practices in which PTOs used unscheduled ETC capacity and redispatched their own resources to accommodate ETC schedule changes with PTO's loads paying for redispatch costs.
- SWP supports the "Perfect Hedge Option" proposal so long as proposal is in accordance with the following understanding of the proposal:

- ISO honors all contract terms and conditions. This means preserving SWP's highest priority *firm* transmission rights without being subject to non-emergency curtailments or congestion costs or RMR / Reliability Services costs.
- ISO uses unscheduled ETC capacity for non-ETC schedules in DA, and allows HA and RT schedule changes according to the ETC terms and conditions. ISO will redispatch resources that have submitted adjustment bids to accommodate ETC schedule changes. If necessary, ISO will redispatch non-economic resources.
- Redispatch or congestion costs that result from ETC schedule changes will be charged to non-ETC load and exports.
- Settlement costs (such as UDP) associated with deviations from the ETC's last accepted schedule will be charged to the ETC holder.
- Allocation of costs to non-ETC loads and exports will be in 10-minute intervals throughout the ISO grid, not on a zonal basis.
- The ISO will develop the methodology for validating ETCs that is acceptable to the PTOs.
- ETC loads and generation will be settled at nodes or MSS interfaces for marginal losses.

<u>Transmission Agency of Northern California (TANC)</u>

- ISO made a significant effort to engage stakeholders but TANC has several fundamental concerns.
- ISO should continue to examine alternatives or refinements to current proposal.
    - ISO should continue its collaborative process to develop procedures (scheduling, forecasting, modeling) that will minimize impacts on ETCs.
    - A collaborative process already resulted in an agreement for some ETC holders to release unused capacity in HA.
- ISO's proposed methodology sweeps all ETCs into one bin that doesn't recognize differences.
    - ISO should allow reservations of ETC rights for COI and other radial transmission facilities.
- The economic efficiency benefits of greater transmission use in DA could be outweighed by RT dispatch and reliability issues.
- With further study and collaboration, ISO could develop forecasts of ETC capacity usage that better manages the capacity released in DA, reducing the impact on ETC holders and the need to make short-term redispatch decisions.
- The ISO's modified cost allocation methodology is an improvement over the original proposal.
- The ISO properly recognizes that COTP and other TORs should not be included in its ETC proposal.

ATTACHMENT C

Opinion on the California ISO's Proposal for Honoring Existing Transmission Contracts (ETCs) under the Market Redesign and Technology Upgrade (MRTU)[1]

by

Frank A. Wolak, Chairman; Brad Barber, Member; James Bushnell, Member; Benjamin F. Hobbs, Member Market Surveillance Committee of the California ISO

November 16, 2004

1. Introduction

The California ISO has recently proposed an approach to honoring existing transmission contracts (ETCs) under its Market Redesign and Technology Upgrade (MRTU). The management of the ISO has asked the Market Surveillance Committee (MSC) to assess the market efficiency implications of this market rule. We first discuss the rationale for this treatment of ETCs. The important features of the ISO's proposed approach are then described. This is followed by a discussion of whether the ISO's proposed approach actually fully honors the ETC holders' contractual rights. The opinion closes with a description of possible complications that could arise when the ISO implements this change in treatment of ETCs.

The ISO proposes to honor ETCs on the interties into California by reserving all of the ETC capacity in the day-ahead market. For ETCs on transmission paths within California the ISO proposes to reserve only the capacity that is scheduled in the day-ahead market. While it is unfortunate that legacy arrangements and seams issues necessitate the co-existence of somewhat incompatible paradigms for managing transmission rights, given the imperative to honor pre-existing contracts, the ISO's hybrid approach to honoring ETCs under the MRTU is perhaps the best possible compromise between honoring pre-existing arrangements and capturing the benefits of the ISO's proposed market redesign. Clearly, the market efficiency consequences of a setting aside all internal ETC capacity in a day-ahead locational marginal pricing (LMP) market are much more severe than would be the case under the current zonal market. In contrast, reserving the entire ETC capacity on the interties with neighboring control areas in a day-ahead LMP market is likely to create similar operational and market monitoring challenges to those that exist under the current zonal market that reserves all ETC capacity for the day-ahead scheduling process.

Stakeholders raised two major concerns. First, the ISO and some stakeholders, most notably the LADWP, disagreed as to whether an approach that treated ETCs on the interties into California the same as ETCs for transmission paths within California honored all of the terms of the ETCs.

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[1] The MSC solicited input from stakeholders in the process of formulating this opinion. Stakeholders were asked to submit written comments to the MSC by September 28, 2004. Seven organizations submitted written comments to the MSC. These were: Brett Franklin from the Electricity Oversight Board (EOB), Diana Mahmud from the Metropolitan Water District of Southern California, John Burnett of the Los Angeles Department of Water and Power (LADWP), C. Anthony Braun from the California Municipal Utility Association (CMUA), Alexander Cabrera of Southern California Edison (SCE), Sean Neal of the Modesto Irrigation District (MID), Michael Werner of the California Department of Water Resources, and Robert Tang of the City of Azusa Light and Water. On September 30, 2004 the MSC also held a public conference call with stakeholders where these written comments and other issues were discussed. The MSC is extremely grateful for the time and effort taken by stakeholders. Their input was very helpful to the MSC in formulating this opinion.

It appears that the ISO's most recent proposal to reserve all ETC capacity on the interties in the day-ahead market addresses these concerns. *Any disagreement on contractual terms should be* settled between the seller and owner of the ETC. Nevertheless, we believe that the ISO's current proposal fully honors all ETCs. Second, some stakeholders, most notably MID, have argued that it makes little sense for the ISO to devote substantial funds to developing the new software necessary to implement this approach to honoring ETCs given the current uncertainty about whether an LMP market will be implemented in California. However, the ISO emphasizes that the incremental cost of honoring ETCs according to this proposal is extremely small under either an LMP market design or the Transitional Alternative Pricing and Settlement (TAPAS) market design. In contrast, it would be very costly to implement software to reserve ETC capacity on internal interfaces. The major uncertainties associated with adopting LMP can be addressed by the Federal Energy Regulatory Commission (FERC) implementing an effective local market power mitigation (LMPM) mechanism and providing the regulatory intervention necessary to resolve the seller's choice contracts problem, the two major barriers to implementing an LMP market in California.

2. Rationale for Proposed Approach to Handling ETCs

Since the start of the California market in April of 1998, the ISO has honored ETCs by reserving transmission capacity on a day-ahead basis whether or not this capacity was fully scheduled by the ETC rights holder. This capacity is held out of all ISO markets until 20 minutes before the start of the operating hour to allow for schedule increases by the ETC rights holders. Any unused transmission capacity is then made available to the ISO operators for use in the real-time market. The current approach to honoring ETCs by limiting the amount of non-ETC schedules the ISO accepts in its day-ahead and hour-ahead markets only applies to internal inter zonal interfaces (Path 15 and Path 26) and interties with neighboring control areas. The ISO does not currently reserve transmission capacity for unscheduled ETC rights within the three congestion zones in the control area. As noted on page 8 of the ISO's "Proposal for Honoring Existing Transmission Contracts," (dated September 20, 2004, and henceforth referred to as the "White Paper"), at the start of the ISO, FERC presumed that the Participating Transmission Organizations (PTOs) would convert their ETCs to transmission rights in the ISO markets within five years. However, the ISO is currently into its seventh year of operation under this transitional approach to honoring ETCs.

One market inefficiency associated with the current approach to handling ETCs is what is called "phantom congestion," where the ISO reserves transmission capacity on an interface because of an ETC, and this results in congestion in the day-ahead and/or hour-ahead congestion management markets. Because these ETC rights are often not fully scheduled in the day-ahead or hour-ahead markets and not fully used by the ETC holder in real-time, this results in no congestion in the ISO's real-time market. Such phantom congestion has two undesirable effects. First of all, beneficial day-ahead and hour-ahead transactions are prevented from occurring. In particular, larger and less expensive units with long ramp-up times may be prevented from being scheduled. Second, relationships between day-ahead and real-time prices may be distorted, with higher price differences between buses day-ahead reflecting the phantom congestion. Releasing unscheduled ETC capacity in the day-ahead and hour-ahead markets would reduce the likelihood that these effects of "phantom congestion" in the day-ahead and hour-ahead markets would occur.

We should note that there is much disagreement about the extent and costs of phantom congestion under the current market design. Several stakeholders have argued that the ISO is fixing a problem that doesn't exist. However, the transition to LMP and other elements of the MRTU necessitates doing something different. Because changes are necessary, we feel that it is imperative for the ISO to avoid the risk of much more severe internal phantom congestion problems that would be created by an attempt to pre-reserve all internal ETC capacity. In addition, reserving internal ETC capacity in the day-ahead market would significantly increase the software costs of implementing a LMP or TAPAS market design.

The transition to a full network model in the day-ahead and hour-ahead congestion management process under an LMP market considerably complicates the process of determining the amount of transmission capacity within California to withhold from the day-ahead market in order to honor ETCs across transmission paths within California. As noted in the ISO's White Paper, under the current zonal market design the ISO control area is modeled as a radial transmission network, so the process of reserving ETC transmission capacity is relatively straightforward. The ISO operators reduce the power flow limit on the inter-zonal interfaces with ETCs. Under an LMP paradigm, unscheduled ETC rights would need to be modeled as Point-To-Point Transmission Options from a source to a sink. As the White Paper notes, this is a considerably more complex task within the context of a looped transmission network with thousands of nodes, relative to the case of a three-zone radial network. The task is comparable to assigning a set of financial option transmission rights while maintaining a simultaneous feasibility criterion. In order to accommodate the direct and indirect network effects of all possible combinations of usage of the options rights the ISO must greatly reduce the amount of capacity that can be made available to other participants.

Depending on the extent to which virtual bidding is allowed, the potential market inefficiencies that result from withholding ETC capacity on the interties into California from the day-ahead and hour-ahead markets could be very small. One of the stated goals of the MRTU process is for the day-ahead and hour-ahead markets to resemble as closely as possible expected real-time system conditions in the day-ahead and real-time markets. Withholding all ETC capacity from the day-ahead and hour-ahead markets is inconsistent with achieving this goal, unless market participants can submit virtual bids at all locations in the control area. Reserving only the ETC capacity that is scheduled in the day-ahead and hour-ahead markets comes closer to achieving the goal of making day-ahead and hour-ahead market outcomes resemble expected real-time system conditions without substantial amounts of virtual bidding throughout the ISO control area.

Holding out only ETC capacity that is scheduled in the day-ahead market both within California and across the interties with neighboring control areas is likely to lead to superior market performance relative to a market design that holds out all ETC capacity at the interties into California. However, ISO's proposed hybrid approach to honoring ETCs should not significantly degrade market performance under an LMP market design. By allowing virtual bidding at all interties, the ISO can allow market participants the opportunity to eliminate these market inefficiencies by creating additional transmission capacity in the day-ahead market based on their expectations of the amount of ETC capacity that will be released in real time.

3. Major Features of ISO's Method for Honoring ETCs

There are three major features of the ISO proposed methodology for handling internal ETCs. The first is that the ISO will not reserve transmission capacity on internal ETCs but will instead guarantee physical access to rights holders through hour-ahead or real-time markets. The second feature is how the ISO will manage the costs of fully honoring internal ETCs in the hour-ahead and real-time markets in California. The third feature concerns the process used by the ISO to validate ETCs.

Physical Access

The ISO's proposal continues the existing practice of fully reserving all ETC capacity on interties with neighboring regions. For ETCs that are internal to the ISO, the ISO will only reserve ETC capacity to the extent that it is scheduled in the day-ahead market. In the simplified hour-ahead market, changes to internal ETC supply schedules would continue to have priority over all other schedule changes made in the hour-ahead market. The load side of internal ETC schedules would be scheduled and settled at specific network nodes, or if applicable, the interfaces of a Metered Subsystem. If the ISO is unable to accommodate additional internal ETC capacity by accepting adjustment bids in the hour-ahead market, then it will redispatch internal resources as part of running the real-time market to make room for the desired ETC schedule changes.

There are two relevant questions from a system efficiency standpoint. First, how will the proposal influence the accuracy of ETC schedules? Second, how costly is it to adjust the system to "make room" for internal ETC schedule changes that come in between the close of the day-ahead market and real-time system operation?

On the first question, we do not expect large differences in scheduling behavior by external or internal ETC holders under the ISO's proposal. Internal ETCs will continue to be honored by making room for the incremental ETC capacity requests between the day-ahead and real-time markets. ETCs on the interties will continue to be honored by withholding all of the ETC capacity from the day-ahead market. Continuing to set aside all ETC capacity at the interties will reduce the competition these ETC holders face for the transmission capacity outside of the ISO control area that is necessary to make use of additional intertie ETC capacity between the close of the day-ahead market and the real-time market. ETC holders at the intertie will continue to enjoy the luxury of waiting to schedule additional energy with their ETC capacity because they can be confident that attractive generation sources outside of California will not already be spoken for.[2] This is likely to continue to cause ETC holders at the interties to under-schedule their ETC capacity in the day-ahead market in order to take advantage of attractive last-minute options for transmission capacity in the neighboring control areas.

The system reliability and cost consequences of making room for incremental internal ETC requests are likely to be smaller under a LMP market design versus the current zonal market design. Under a LMP market, the ISO operators have many more locational prices under their control to incent generation units and loads to change their day-ahead or hour-ahead schedules to make room for incremental internal ETC requests made between the day-ahead and real-time markets. The Residual Unit Commitment (RUC) process is designed to ensure that adequate resources are available in the local areas, which should further increase the ability of ISO operators to meet incremental internal ETC requests without significant reliability or cost consequences. Last, by 2007, ISO operators will have more advanced tools at its disposal for managing network redispatch, which should reduce these costs even further.

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[2] Most stakeholders explicitly recognize the advantage this capacity set-aside bestows on the ETC holder. Some have claimed that taking away this advantage would deny them a right bestowed upon them by the contract.

Cost Allocation

The ISO proposes to implement what it calls a "Perfect Hedge" option to ensure that all ETC holders are held financially harmless by day-ahead ETC schedules as well as ETC schedule changes made in the hour-ahead and real-time markets. This will be accomplished by the ISO reversing the congestion charges associated with scheduling ETC capacity in any of the ISO markets. To ensure that non-collection by the ISO of the day-ahead ETC congestion charges does not create a liability for non-ETC CRR holders, the ISO will model internal ETC obligations along with other Congestion Revenue Right (CRR) requests in the CRR simultaneous feasibility test. However, the ISO will not release the CRRs necessary to provide this day-ahead hedge to ETC holders. The ISO will follow a similar process in the hour-ahead and real-time markets to refund the congestion charges associated with valid post-day-ahead ETC schedule changes. Under the ISO's proposed LMP market, all charges for hour-ahead and real-time congestion will be collected in an account known as the "Imbalance Energy Offset." Reversing these congestion charges for ETC holders will reduce the amount of money flowing into this account. Reversal of real-time congestion charges will occur for schedule changes made in both the simplified hour-ahead market and before the real-time market.

Validation

The ISO also proposes an option to take over validating ETC schedules from the relevant PTO, although its preference is to continue to have the PTOs schedule and validate ETC schedules. The ISO's "middle ground" approach is to perform day-to-day verification that submitted ETC schedules are within their contractual rights, as long as the contract sellers, the PTO, provides certain information to the ISO that forms the basis for this validation. The ISO emphasizes that this new approach is offered as an option, but is not intended to exclude the current approach of PTOs scheduling and validating ETCs.

4. Assessing Whether the ISO Proposal Honors ETCs

There are two major issues associated with determining whether the ISO's proposed approach actually honors the ETC holders' contractual rights. The first issue concerns the timing of honoring ETC capacity and whether this might impact the amount of transmission capacity ultimately available to the ETC holder. The second issue concerns the impact of withholding internal ETC capacity from a day-ahead LMP market on the ability of the ISO to provide internal ETC holders with additional transmission capacity inside of the ISO control area between the day-ahead and hour-ahead and real-time markets.

The ISO's white paper summarizes how the ETCs were honored during the former vertically integrated regime. Both SCE and Pacific Gas and Electric (PG&E) honored their ETCs by re-dispatching their own generation units to accommodate ETC schedules when this was necessary. This approach is consistent with the ISO's proposed approach. Neither SCE nor PG&E compensated ETC holders for unused ETC capacity, although to varying degree both entities allowed third parties to use ETC capacity. PG&E did not explicitly allow ETC holders to sell their capacity to third parties, but it did allow ETC holders to buy and sell electricity on behalf of third parties. SCE did allow some ETC holders to sell unscheduled ETC capacity to third parties, although the ETC holder was the only entity allowed to make schedule changes. The ISO's proposal allows ETC holders to continue to exercise these rights.

Several stakeholders commented that the ISO should consider offering a non-firm transmission rights product in the day-ahead market as a way to honor existing transmission rights. We are not aware of any formal wholesale market in the United States that offers non-firm transmission capacity product. Under a wholesale market design, all transmission capacity is non-firm in the sense that if the transmission price exceeds a market participant's willingness to pay for it, the market participant will forego the use of this transmission capacity. This same transmission capacity is firm in the sense that if a market participant purchases the right to use a portion of a transmission interface in the day-ahead market, unless it sells this capacity back in a subsequent market, it has a firm financial right to this transmission capacity. Consequently, under a wholesale market regime, there is no need for a non-firm product because all market participants have the ability to submit bids that express their willingness to give up transmission capacity they have purchased in a previous market or purchase additional transmission capacity. The ISO's proposal provides strong incentives for all market participants to submit bids giving their willingness to sell and buy transmission capacity, because the ISO has committed to implementing pro-rata curtailments of non-ETC transmission capacity in the real-time market in order to honor additional internal ETC requests. Consequently, although the ISO will sell unused internal ETC capacity in the day-ahead market, ISO market participants have a strong incentive to submit adjustment bids in the real-time market, because they face the risk of pro-rata curtailments in the very unlikely event the ISO has insufficient adjustment bids available to accommodate an ETC holder's request to use additional internal ETC capacity in real time.

The final point concerns the ability of the ISO to provide the additional internal ETC capacity requested between the close of the day-ahead market and real-time system operation. As noted above, the current market design honors internal ETCs using this 'schedule changing' mechanism. Because the ISO operators have more tools at their disposal to cause suppliers and loads to change their day-ahead schedules to make room for additional internal ETC capacity requests under an LMP market, it is likely to be more straightforward and less costly for ISO operators to honor these incremental internal ETC capacity requests under an LMP market design. Therefore, it seems more likely that incremental internal ETC capacity will be fully honored under an LMP market design relative to the current zonal design.

5. Potential Complications in Implementation

There are two topics that should be studied in more detail before the ISO issues tariff language to implement its proposal. The first concerns determining how much CRR capacity to withhold from the CRR allocation process to implement the ISO's "Perfect Hedge" approach to honoring internal ETC contracts. The second issue concerns determining what information the ISO will need to collect from both PTOs and ETC holders in order to validate ETC schedules in the day-ahead market and implement the "Perfect Hedge" settlement option.

Because ETC contracts are typically directional options rather than point-to-point obligations, it is unclear precisely how the ISO can best hedge the congestion costs associated with honoring the ETC contracts through an explicit reversal of congestion charges in the day-ahead and real-time markets. We recommend that the ISO undertake studies of how to raise the necessary congestion revenues to fund the option CRRs implicit in its "Perfect Hedge" option while still providing the largest possible amount of obligation CRRs to ISO market participants. While we do not believe this is an insurmountable obstacle to implementing the ISO's approach to honoring internal ETC contracts, we do believe that there could be significant expected benefits associated with studying this issue before this proposal is implemented.

Similar logic applies to the issue of what sort of information the ISO should collect from both PTOs and ETC holders in order to provide the *maximal flexibility to ETC holders in exercising* their transmission rights. A specific issue to be addressed includes how to allow third parties to use ETC capacity for those ETC rights that previously allowed third parties to make use of them. Another is how to validate that the terms of an ETC contract are satisfied for those ETC contracts that did not previously require the ETC holder to specify explicit sources and sinks. The ISO's White Paper notes that a number of ETC contracts do not specify explicit sources and sinks. Most ETCs only specify capacity on transmission paths. The PTO and the ETC holder must decide how these zonal ETC rights will be translated into nodal ETC options. The ISO can provide input to this process, but this appears to be an issue that should be resolved between the parties to the contract.

Finally, we strongly urge the PTOs to convert all ETCs to conventional transmission rights as soon as possible. As noted above, the costs of having a number of somewhat inconsistent pricing and allocation mechanisms for transmission capacity within and into the California ISO control area are likely to be significant. Such inconsistencies are barriers to trade and to efficient use of transmission and generation resources. Converting these transmission capacity allocation mechanisms to a single standard is likely to increase significantly the benefits California consumers receive from LMP energy and ancillary services markets.

ATTACHMENT D

TABLE 1

Southern California Edison

RS #	Party	Amount	Location	Termination	Ability to Modify	Relevant Provisions
37	WAPA	400 MW	Malin to Tracy or Round Mountain	1/1/2005	J&R	Contract will terminate.
38	CDWR	300 MW	COB to Midway bi-directional	1/1/2005	J&R	Contract will terminate. Section 16.10: "Except as provided in Section 16.9 [ROE], nothing contained herein shall be *construed as affecting in any way the right of Edison to unilaterally make application to FERC for* a change in rates, charges, classification, or service, or any rule, regulation, or contract relating thereto, under Section 205(d) of the Federal Power Act . . ."
39	SMUD	200 MW 1	COB and Tesla bi-directional	1/1/2005	Mixed	Contract will terminate.
55	Pasadena	200 MW	Sylmar to Goodrich bi-directional	8/4/2010	Mixed	Section 6.1: "[T]ransmission losses…shall be as determined by the California Independent System Operator . . ." Section 6.2: "Pasadena shall be responsible for arranging schedules for transmission service provided under Article 4 directly with the ISO in accordance with the ISO Tariff as applicable to Existing Contracts."
112	CDWR	72 MW 787 MW 82 MW 152 MMW 120 MW 235 MW 120 MW	Vincent to Oso Vincent to Edmonston Warne to Vincent Vincent to Pearblossom Calectric to Vincent Midway to Vincent Sylmar to Vincent	12/31/2004	J&R	Contract will terminate.

113	CDWR	235 MW	Eldorado and Vincent	Earlier of: replacement of facilities; termination of Reid Gardner 4 entitlement or retirement of unit or 12/31/2020	J&R	
131	AEPCO and SWTC	10 MW	Mead to Mountain Center	7/1/2021 or on 10 Years notice	J&R	Section 6.6: "Firm transmission services provided under this Agreement shall not exceed the amount (MW) required by AEPCO to provide Anza's electrical capacity and energy requirements, nor the limits specified pursuant to this Section 6.6 as determined by total scheduled rates of delivery of energy deemed to take place at the Point of Receipt." Section 6.8: "schedules of energy deliveries . . . shall be as specified by AEPCO's load dispatchers or schedulers and shall be in accordance with the practices and procedures agreed to by the Authorized Representative." Section 7: Transmission loses based on average system loses determined annually, re-evaluated every other year. Section 12.3: "Nothing contained in this Agreement shall be construed as affecting in any way the right of Edison, in furnishing firm transmission service under this Agreement, to unilaterally make application to FERC for a change in rates, charges, classification, or service, or any rule, regulation, or contract relating thereto, under Section 205(d) of the Federal Power Act . . ."
174	SDG&E; IID; and APS		Palo Verde-Devers; Devers-Valley; Valley-Serrano; Serrano-SONGS	2034		In the event of a contingency in the Palo Verde-Devers, Palo Verde-North Gila-Imperial Valley lines, participants are to share the available capacity based on predetermined procedures.
203	SCE for MWD	110 MW	Hinds to Vincent bi-directional	5 year notice or termination of Hoover participation	Mixed	
207	Vernon	26 MW	Mead to Laguna-Bell	Termination of Hoover power sale	J&R	
219	SCE for LADWP	100 MW 368 MW 320 MW	Sylmar to Palo Verde bi-directional Sylmar to Devers bi-directional	5/3/2012 When Devers 1 is removed unless Devers 2 is built in which	mixed	Section 6.6: "During any hour when Los Angeles is not scheduling deliveries of energy using the transmission service it has obtained pursuant to this Section 6, Edison shall have the right to schedule deliveries of nonfirm energy over said transmission service. Said deliveries of nonfirm energy shall be interrupted upon notice if Los Angeles determines, for any reason, it desires to use the transmission service it has obtained pursuant to this Section 6."

			COB to Midway and 320 Midway to Sylmar bi-directional	case it is end of Devers 2 5/31/2025 or Pacific AC Intertie Agreement Termination on 7/31/07		Section 7.7: "During any hour when either Party is not scheduling deliveries of energy over the Transmission Capacity it has obtained pursuant to this Section 7, the Party which has made available such Transmission Capacity shall have the right to schedule deliveries of nonfirm energy over said Transmission Capacity. Said deliveries of nonfirm energy shall be interrupted upon notice if the other Party determines, for any reason, it desires to use the Transmission Capacity it has obtained hereunder." Section 7.9: "Losses shall be reimbursed by providing energy at Points of Interconnection and at times as agreed to by the Parties' schedules or dispatchers, unless otherwise agreed . . ." Section 6.15 of the LADWP Agreement states that "For transmission service made available by Edison pursuant to Section 6.1, beginning June 1, 2012, Los Angeles shall pay Edison (i) at a rate to be determined in accordance with Edison's then-current methodology for determining such transmission service rate for transmission service between Devers and Sylmar and (ii) for all fees associated with such service."
264	USA, APS, SRP, NPC, LADWP, SRP		Moenkopi - Eldorado	5/21/2023	Mobile-Sierra	Provides for service due to contingency on Navajo-McCullough or Moenkopi-Eldorado
268	IID	100 MW May-Oct; 50 MW otherwise	Devers-Mirage / Coachella	On 3 years notice	J&R	Section 6.6: "Edison shall, within the rate of delivery specified in Section 6.5, accept scheduled deliveries of energy at a Point of Receipt and, subject to the provisions of Sections 6.4 and 7.1, shall make available a like amount of energy to IID at the Point of Delivery." Section 6.7: "schedules of energy hereunder shall be as specified by IID's schedulers or dispatchers and shall be in accordance with procedures agreed to by the Parties' schedulers or dispatchers." Section 7: losses – either replacement in kind or by subtraction of delivered amount at Edison's election. Section 11.4: "Nothing contained herein shall be construed as affecting in any way: (i) the right of Edison, in furnishing firm transmission service hereunder, to unilaterally make filings with the FERC for a change in rates, charges, classification, or service, or any rule, regulation, or contract relating thereto, under Section 205 of the Federal Power Act . . ."
271	Tucson	110 MW Power exchange agreement	Point of Delivery; Palo Verde, Four Corners	5/14/2005	Mobile-Sierra	Contract will terminate.
272	Vernon	60 MW	Sylmar to Laguna-Bell	Termination of Vernon COTP ownership	J&R	Section 9.2: "Subject to Section 7.2, schedules of capacity and energy and deliveries of energy under the Agreement shall be as specified by Vernon's schedules or dispatchers and Vernon shall have the right to preschedule capacity and/or energy. Such schedules shall be in accordance with written procedures agreed to by the Authorized Representatives of Edison and Vernon."

						Section 16.4 "*Nothing contained herein shall be construed as affecting in any way: (i) the right of* Edison, in furnishing firm transmission service hereunder, to unilaterally make filings with the FERC for a change in rates (including without limitation transmission loses and scheduling and dispatching costs) or rate methodology or design associated with the provision of transmission service hereunder under Section 205 of the Federal Power Act . . ."
292	SCE for MWD	24 MW	Etiwanda to Vincent		J&R	Section 6.2: ". . . Edison shall . . . simultaneously schedule to DWR at the Point of Delivery for PG&E's account, amount of capacity and associated energy equal to that delivered to Edison . . ." Section 6.4: "Subject to the provisions of this Section 6, the operating personnel authorized to represent each of District, DWR, PG&E and Edison shall agree upon written procedures implementing the accounting, scheduling and delivery of the District Etiwanda Power Plant output under this agreement." Section 8: losses replaced in kind pursuant to a specified formula Section 14.3: "Nothing contained herein shall be construed as affecting in any way the right of Edison, in making available transmission service hereunder, to unilaterally make application to *FERC for a change in rates, charges, classification, or service, or any rule, regulation, or contract* relating thereto, under Section 205(d) of the Federal Power Act . . ."
304	WAPA	All of the capacity; Bidirectional	Hoover-Mead	9/30/2017 or upon 3 years notice by WAPA	Mobile-Sierra	Lease of two 230 kV lines between Hoover power plant and Mead substation
339	SCE for MSR	150 MW	Victorville/Lugo to Midway	Five year notice by MSR or life or Mead-Adelanto 500 kV	J&R	Section 6.12.1: "During such time that the ISO has Operational Control over Edison's transmission facilities, Edison shall accept schedules from M-S-R and forward those schedules to the ISO as Scheduling Coordinator for this Agreement, in accordance with the requirements of the ISO Tariff." M-S-R can select another Scheduling Coordinator. Section 8.5: During the time the ISO has Operational Control over Edison's transmission facilities, M-S-R shall be responsible for losses as determined by the ISO in accordance with the ISO Tariff. Section 14.3: "Except as provided in Section 14.2[ROE], nothing contained herein shall be construed as affecting in any way: (i) the right of Edison unilaterally to make application to the FERC for a change in rates, losses pursuant to Section 8, charges, classification, or service, or any rule, regulation, or contract relating thereto, *under Section 205 of the Federal Power Act* . . ."
342	CDWR	28 MW	Mojave Siphon to Vincent	Life of Mojave Siphon plant	J&R	Section 6.5: "The maximum firm transmission service made available hereunder by Edison to CDWR shall be 28 MW . . ." Section 6.6: ". . . schedules of capacity and deliveries of associated energy hereunder shall be as specified by CDWR's schedulers or dispatchers and shall be in accordance with written procedures agreed to by the operating representatives of Edison and CDWR." Section 6.9: "Edison has no responsibility for scheduling and dispatching the transmission

						service provided pursuant to the Agreement with the California Independent System Operator." Section 7.1: ". . . CDWR shall directly compensate the ISO for transmission losses in accordance with the ISO Tariff and protocols." Section 15.3: ". . . nothing contained herein shall be construed as affecting in any way: (i) the right of Edison to unilaterally make filings with FERC for a change in rates, charges, classification, or service, or any rule, regulation, or contract relating thereto, under Section 205 of the Federal Power Act . . ."
348	SCE for APS	2 MW 5 MW	Blythe to Cibola Blythe to Ehrenberg	Upon 3 year notice by APS or 10 year notice by Edison	J&R	Section 6.9: "Subject to Section 6.3, schedules of energy deliveries under this Section 6 shall be as specified by APS's load dispatchers or schedulers or by one dynamic signal transmitted to the Blythe Point of Receipt in accordance with practices and procedures agreed to by the Parties' dispatchers or schedulers." Section 8: Transmission losses – calculated in accordance with a specified schedule Section 16.3: "Except as provided in Section 16.2 [ROE], nothing contained herein shall be construed as affecting in any way: (i) the right of Edison to unilaterally make application to the FERC for a change in rates, transmission losses pursuant to Section 8, charges, classification, or service, or any rule, regulation, or contract relating thereto, under Section 205 of the Federal Power Act . . ."
360 (old 154)	Vernon	11 MW	Victorville-Lugo to Laguna Bell (bi-directional)	Removal of Mead Adelanto 500 KV facility	J&R	Section 17.1: "Vernon may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Agreement. Any sale or assignment by Vernon may be for a term coextensive with the term of this Agreement or any lesser term. The Parties contemplate that, for shorter term, hourly, interruptible or spot transactions, Vernon will choose to sell transmission service, and that for longer term transactions, Vernon will assign its rights to transmission service. Vernon shall be responsible for scheduling all transactions involving sales of transmission service, while in the event of an assignment, Vernon's assignee shall be responsible for scheduling directly with Edison and Third Parties." Section 13.4: "Nothing contained herein shall be construed as affecting in any way: (i) the right of Edison, in furnishing firm transmission service hereunder, to unilaterally make filings with the FERC for a change in rates (including without limitation transmission losses and scheduling and dispatching costs) or rate methodology or design associated with the provision of transmission service hereunder under Section 205 of the Federal Power Act . . ."
361	Colton	3 MW	Mead to Vista	One year notice by city of termination of Hoover participation	Mixed	Section 2.9: Except as otherwise provided this is a Mobile Sierra contract. Section 5.1.2: "Except as otherwise expressly provided . . . each Party waives whatever right it has to protest, complain or file for a change or modification . . . ." Section 6.2.2: "Edison shall accept deliveries of energy, up to the maximum amount provided in Section 6.1, from City or Third Parties for City's account . . ."

						Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
362	Colton	3 MW	Victorvillle-Lugo to Vista	One year notice by city or termination of Palo Verde participation	Mixed	Section 2.12 Except as otherwise provided this is a Mobile Sierra contract. Section 5.1.2: "Except as otherwise expressly provided . . . each Party waives whatever right it has to protest, complain or file for a change or modification . . . ." Section 6.2.2: "Edison shall accept deliveries of energy, up to the maximum amount provided in Section 6.1, from City or Third Parties for City's account . . ." Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
363	Colton	18 MW	Victorville-Lugo to Vista	One year notice by city or termination of San Juan 3 participation	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service

						Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
364	Colton	3 MW	Sylmar to Vista	Once year notice by city or termination of Idaho agreement	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1 "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
365	Colton	14 MW	Devers to Vista	One year notice by city or termination of San Jaun 3 participation	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
372	Azusa	4 MW	Mead to Rio Hondo	Termination by one year's notice by City or Termination of the Electric Service Contract	Mixed	Section 2.7: City desires to purchase firm transmission from the Point of Attachment to the Point of Delivery, and Edison is willing to provide such service. Section 6.2: Effective on the date the City becomes a PTO, City's entitlement to transmission service shall be treated as a Converted Right pursuant to the ISO Tariff. Section 17.1 "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."

373	Azusa	4 MW	Victorville-Lugo to Rio Hondo	Termination by one year's notice by City or *termination of* the City's Palo Verde entitlement	Mixed	Section 2.10: City desires to purchase firm transmission from the Point of Attachment to the Point of Delivery, and Edison is willing to provide such service. *Section 6.2: Effective on the date the City becomes a* PTO, City's *entitlement* to transmission service shall be treated as a Converted Right pursuant to the ISO Tariff. Section 17.1 "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service *Agreement or any lesser term. City or such Third party shall be responsible for scheduling* all transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
374	Azusa	14 MW	Victorville/Lugo to Rio Hondo		Mixed	Section 2.6: City desires to purchase firm transmission from the Point of Attachment to the Point of Delivery, and Edison is willing to provide such service. *Section 6.2: Effective on the date the City becomes a PTO, city's entitlement to transmission* service shall be treated as a Converted Right pursuant to the ISO Tariff. Section 17.1 "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service *Agreement or any lesser term. City or such Third party shall be responsible for scheduling all* transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
375	Azusa	8 MW	Mead to Rio Hondo (bidirectional)		Mixed	Section 2.10: City desires to purchase bidirectional firm transmission from the Point of Attachment to the Point of Delivery, and Edison is willing to provide such service. Section 6.2: Effective on the date the City becomes a *PTO, city's entitlement to transmission* service shall be treated as a Converted Right pursuant to the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such *Third party shall be responsible for scheduling all* transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
376	Azusa	10 MW	Sylmar to Rio Hondo		Mixed	Section 6.2: Effective on the date the City becomes a PTO, city's entitlement to transmission service shall be treated as a Converted Right pursuant to the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all

						transactions involving sales or assignment to a Third Party of Transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
378	Banning	2 MW	Mead to Devers	One year notice by City or termination of the Electric Service Contract	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1 "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
379	Banning	3 MW	Victorville-Lugo to Devers	One year's notice by City or Termination of City's entitlement to PVNGS	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
380	Banning	5 MW	Victorville-Lugo to Devers	One year notice by City or Termination of interest in San Juan 3	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."

381	Banning	15 MW	Devers to Devers-Garnet Tap	One year notice by city or termination of San Juan 3 participation	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
390	Riverside	30 MW	Mead to Vista	180 Days notice by city or termination of Hoover participation	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
391	Riverside	156 MW	Victorville-Lugo to Vista	180 days notice by city or IPP participation termination	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
392	Riverside	12 MW	Victorville-Lugo to Devers	One year notice by city or Palo Verde termination	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff."

						Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols."
393	Riverside	42 MW	SONGS to Vista	180 days notice by city or termination of SONGS participation	Mixed	Section 6.3: "City shall be responsible for scheduling all transactions and paying all costs and charges associated with the transmission service provided under this Transmission Service Agreement in accordance with the provisions of this agreement, the ISO Tariff and protocols and, as applicable, the Edison Transmission Owner Tariff." Section 7.2: transmission losses shall be as determined under the ISO Tariff. Section 17.1: "City may sell or assign to a Third Party all or a portion of its rights to firm transmission service provided pursuant to this Transmission Service Agreement. Any sale or assignment by City may be for a term coextensive with the term of this Transmission Service Agreement or any lesser term. City or such Third party shall be responsible for scheduling all transactions involving sales or assignment to a Third Party of transmission service with the ISO in accordance with the ISO Tariff and scheduling protocols.
421	CDWR	120 MW	Calectric to Vincent	Life of Devil Canyon Recovery Plant	J&R	Section 6.1: "Subject to the terms of this Agreement, Edison shall make available firm transmission service to CDWR . . . ." Section 7: CDWR shall directly compensate the ISO for transmission losses in accordance with the ISO Tariff and protocols. Section 15.3: ". . . nothing contained herein shall be construed as affecting in any way: (i) the right of Edison to unilaterally make application to the FERC for a change in rates, charges, classifications, or service, or any rule, regulation , or contract relating thereto, under Section 205 of the Federal Power Act . . ."
425	LADWP; Nevada Power; Salt River; and SCE	SCE- 884 MW; LADWP- 316 MW NCP 222 MW; SRP- 158 MWt	Eldorado - Mead	Coterminous with the Mohave Project Co-Tenancy Agreement	Mobile-Sierra	If Mohave-Eldorado line is curtailed, pro-rata backup is provided on the Mohave-Lugo and Eldorado-Lugo lines. If Mohave-Lugo is curtailed, pro-rata backup is provided on Mohave-Eldorado
426	Nevada Power	222MW	Mead-Mohave	Coterminous with Mohave project Co-Tenancy Agreement	Mobile-Sierra	Backup transmission service

TABLE 2

Pacific Gas & Electric

RS #	Party	Amount	Location	Termination	Ability to Modify	Relevant Provisions
35	Western 2947A			12/31/2004	J&R	Termination proceeding pending at FERC.
36	CDWR			12/31/2004	J&R	Termination proceeding pending at FERC.
37	SMUD EHV	200 MW	Maling Rancho bi-directional	12/31/2004	J&R	Termination proceeding pending at FERC.
42	BART	84 MW	Network integration	10/1/2016	J&R	
43	BART	80 MW 20 MW	Network integration	1/1/2017	J&R	Order No. 888 Network Service Agreement
60	Western New Melones: Contract No. 8-07-20-P0004	300 MW 15 MW	New Melones to Tracy Tracy to New Melones	6/1/2032	Mobile Sierra	Section 15: "United States shall declare New Melones capability for each day, by noon of the previous day . . . . Contractor shall schedule New Melones capability hourly to meet the area electric load and reserve requirements, within the amounts declared by United States." Section 16 & Appendix D: Losses in accordance with specified loss factor
63	Western		DE-AC65-80WP590000 Delta Pumping Plant	12/31/2004	J&R	
77	CDWR		Various	12/31/2014	J&R	Section 6.15: "Hourly schedules of Energy deliveries to be made pursuant to transmission service furnished under this Agreement shall be prepared and provided in accordance with the Operating Procedures." Section 17.3 "Nothing contained in this Agreement shall be construed as affecting in any way the right of Pacific, in furnishing service under rate schedules under this Agreement, to unilaterally make application to the FERC for a change in rates, charges, classification, or service, or any rule, regulation, or contract relating thereto, under Section 205(d) of the Federal Power Act . . . ."
79	Western 2207A		San Luis Forebay Pumping plant, San Luis Pumping plant, Mile 18 Pumping plant Pleasant Valley Pumping plant, San Luis Canal and Pleasant Valley Canal Relift, and San Luis Drainage Pumps to	4/1/2016	Mobile Sierra	Section 12(b) "Schedules for deliveries of capacity and energy to the United States hereunder shall be prepared and changed from time to tome by the parties, as conditions require for system operating control,"

			Tracy			
79	Western 2948A			12/31/2004	J&R	Contract will terminate
79	Western		Wintu Pumping Plant	12/31/2004		Contract will terminate
79	Western		Trinity County PUD	1/1/2005		Contract will terminate
81	Western			12/31/2004	J&R	Contract will terminate
85	City of Santa Clara (Grizzly)	17.66 MW	Various	11/18/2022	Dispute PG&E J&R Santa Clara: Mobile Sierra; Section 21.7 only in writing executed by the parties	Hourly scheduled amounts under the Agreement may not, in actuality, be utilizing power supplied by the Grizzly plant at that time, instead, PG&E may be supplying power from another resource in its portfolio to meet its obligations under the agreement.
88	SMUD	0.42	Slab Creek and Rancho 2	Upon 30 days notice by SMUD	J&R	Section 3: PG&E shall provide SMUD Firm Transmission Service for Slab Creek Powerhouse under the terms and conditions provided in the agreement. Section 6: Losses in accordance with Appendix B. Section 14(c): "Nothing contained herein shall be construed as affecting in any way the right of the Party furnishing services to unilaterally make application to the FERC for a change in rates under Section 205 of the Federal Power Act …The term "rates" as used herein shall mean a statement of electric services as provided in this Agreement, rates and charges for or in connection with those services, and all classifications, practices, rules, regulations, or contracts, including but not limited to this Agreement, which in any manner affect or relate to such services."
91	SMUD	7.9 MW	Camp Far West to Rancho 2		J&R	Section 14.(c): "Nothing contained herein shall be construed as affecting in any way the right of the Party furnishing services to unilaterally make application to the FERC for a change in rates under Section 205 of the Federal Power Act . . . The term "rates" as used herein shall mean a *statement of electric services as provided in this Agreement, rates and charges for or in connection* with those services, and all classifications, practices, rules, regulations or contracts, including but not limited to this Agreement, which in any manner affect or relate to such services. A change in rates may include, but not be limited to, not only changes in rates and charges but also in the underlying methodology by which such rates and charges are developed."
114	C&C of SF			7/1/2015	J&R	Section 2.1: "It is the intent of the Parties that City shall schedule its resources to meet its loads pursuant to Section 5.3 and Appendix H."

						Appendix H: 5 work days before the end of the month provide monthly preschedule. By 2:00 pm of the prior work day submit a daily schedule. "City may adjust a preschedule at any time up to ten (10) minutes before midnight of the day prior to the day the preschedule is to become effective as the schedule of the day." "City may adjust the schedule of the day at any time up to ten (10) minutes prior to the start of the next active half-hourly period for any succeeding half-hourly period of the schedule of the day." "City may adjust the schedule of the day for an active half-hourly period one time up to twenty (20) minutes into such active half-hourly period." Section 9.28: "Except as expressly provided in Appendix A, no provision of this Agreement shall be construed as affecting in any way PG&E's right to file unilaterally with FERC a change in rate or rate methodology under Section 205 of the Federal Power Act or City's right under that same statute to challenge such a filing." [Appendix A provides that rate levels will not be subject to change prior to January 1, 1999]
116	MID	130 MW	Various points to Westley bidirectional	4/1/2008	J&R	Section 5.2.1.1: "Modesto's purchase of Reserved Transmission Service is a purchase only of specific service for a specific term and shall not (a) create in Modesto (i) an entitlement to or property interest in a specified portion of PG&E's transmission system, or (ii) any right to assign its service to a Third Party, or (b) give Modesto any right to continued service beyond the agreed-upon term of such service." Section 4.3: Modesto shall schedule to match its Tie-Line Flow in accordance with Appendix H. The parties may agree to modify Appendix H at any time. Appendix H gives MID the right to provide schedule at midnight for the following day and, except for hours 0000 to 0010 may adjust any time up to 10 minutes before the start of the next active half-hour period. During the half-hour period may further adjust one time up to twenty minutes into the half-hour period. For transactions with Third Parties outside of PG&E Control area MID may adjust schedules up to 20 minutes before each hour. Section 5.7 "All transmission deliveries under this Agreement shall be adjusted for transmission losses set forth in Appendix C…If the parties cannot agree, PG&E shall have the right to file the revised appendix [c] with FERC and Modesto shall have the right to oppose that filing." Section 10.26: "Except as may be expressly provided otherwise in this Agreement, nothing contained herein shall be construed as affecting in any way PG&E's right unilaterally to file changes with FERC in rates and rate methodologies under Section 205 of the Federal Power Act or its successor and pursuant to the Regulations promulgated thereunder or Modesto's right to intervene, protest or otherwise oppose any such unilateral filing. The term "rates" as used herein shall mean s statement of electric services as provided in this Agreement, rates and charges for or in connection with those services, and all classifications, practices, rules, regulations, or contracts, including but not limited to this Agreement, which in any manner affect or relate to such services, rates and charges. A change in rates may include, but shall not be limited to, not only changes in rates and charges, but also in the underlying methodology by which such rates and charges are developed."
126	Western		Sonoma County	12/31/2004	J&R	Termination proceeding pending at FERC

			Water Agency Contract No 88-SAO-40002			
136	SMUD	6+ MW	Russel Substation and Rancho 2	12/31/2009	J&R	Section 10.23: "Except as may be expressly provided otherwise in this Agreement, nothing contained herein shall be construed as affecting in any way PG&E's right unilaterally to file changes with FERC in rates and rate methodologies under Section 205 of the Federal Power Act . . . ." Appendix H: H.1: "As a result of SMUD operating as a Control Area, the Parties have reviewed their respective scheduling responsibilities and have agreed to implement scheduling as set forth in this Appendix, until and unless they otherwise mutually agree." H.4: "SMUD shall make any changes to such daily schedules submitted by PG&E to its host Control Area Operator no later than 20 minutes before the scheduling hour . . . ."
139	NCPA, SVP, CDWR	275 MW	Castle Rock to Lakeville	Evergreen or 1 year notice after 2015	J&R	Section 7.1: "Each Cotenant shall have, subject to curtailments as provided in Article 8.0, a Firm Transmission Entitlement equal to its Ownership Interest in megawatts." Section 7.2: "No Cotenant shall have the right to use the unused Firm Transmission Entitlement of another Cotenant without such other Cotenant's prior authorization through its operating center or otherwise." Section 7.7: "A Cotenant may use its Firm Transmission Entitlement to provide transmission service for others . . ." Section 8.2.2: "Except as provided in Article 7.0, the Cotenant's rights to the use of its Firm Transmission Entitlement shall not be transferable to another Line Circuit or Other Circuit." Section 16.4.2.1: "Nothing contained in this Agreement shall be construed as affecting in any way the right of PG&E to unilaterally make application to FERC for a change in rates under Section 205 . . . ."
140	Puget Sound	300 MW	Power exchange at COB	2007 per 5 year notice from Puget	Mobile-Sierra	Section 9.8: "Under this Agreement, neither Party provides or makes available any transmission service over any part of its transmission system . . . ."
143 (SOTP)	TANC	300 MW	Tesla to Midway bi-directional	Same as COTP interim partici-pation agreement	Mixed	Section 6.1: "Transmission service provided hereunder shall be deemed firm by PG&E." Section 5.4.3 says pay $0.10/kW-month through 12/31/04 -Just and reasonable for remainder. Section 5.1: ". . . rates shall be as mutually agreed or as may be unilaterally filed by PG&E with the FERC under Section 205 of the Federal Power Act." Section 5.5: PG&E has right to propose different loss factors. If TANC does not agree, PG&E can file at FERC.
144	TANC -			Upon	J&R	Section 22: "By filing this CIRS and providing the services expressly designated herein, PG&E

	COTP Interconnection			termination of COTP		shall not incur any obligation to provide or make available to another Party or to any third party any transmission service . . ." Section 29.2: "Nothing contained herein shall be construed as affecting in any way the right of PG&E or any other Party furnishing service in accordance with this CIRS, or any tariff and rate schedule which results from or incorporates this CIRS, unilaterally to make application to the FERC for a change in rates under Section 205 of the Federal Power Act. The term "rates" as used herein shall mean a statement of electric services as provided in accordance with this CIRS, rates and charges for, or in accordance with, those services, and all classifications, practices, rules, regulations, or contracts, including but not limited to this CIRS, which in any manner affect or relate to such services, rates, and charges. A change in rates may include, but shall not be limited to, changes in rates, charges, and the underlying methodology by which such rates and charges are developed."
147	Western DOE Labs	53 MW	COI to SLAC, Lawrence	3/31/2009	J&R	Section 12: "nothing contained herein shall be construed as affecting in any way PG&E's right unilaterally to file changes with FERC in rates, including rate methods and terms and conditions of service, under Section 205 of the Federal Power Act." A.2.1: "Firm Power from the Pacific Northwest … will be used first to meet LLNL Load. In the event of a curtailment of COTP Power, Western will provide Standby Emergency Power or Replacement Power or PG&E will provide Standby Service." D.2.5: Western, for the next hour, shall notify PG&E by voice communication of any schedule change for LLNL no later than 20 minutes before the hour."
148	Vernon	93 MW North to South; 82 MW South to North	DC line bidirectional	7/31/2007 or by extension to 12/15/2042	Mobile-Sierra	Vernon is a Participating Transmission Owner.
182	Midway Sunset	2 MW	Yolo to Midway	10/1/2016	J&R	Page 2, par. 5(b): "Either party may unilaterally apply to the Commission or any other regulator having jurisdiction for a change in rates under this Agreement, or to effectuate such a change, in accordance with applicable laws, rules, and regulations." Page 3, par. 12: PG&E intends to provide firm service hereunder.
213	Turlock	32 MW 10 MW	Midway to Walnut bidirectional NCPA Geysers to Walnut	4/1/2008	J&R	Section 5.2.1: Reserved Transmission Service – This type of firm transmission service is intended to be used by Turlock in planning to meet its load and contingencies. Section 5.2.2: Coordination Transmission Service – used to enter coordination agreements; may be provided at PG&E's discretion. Section 5.4: Losses as specified in Appendix C subject to change by unilateral filing at FERC Section 10.27: "Except as may be expressly provided otherwise in this Agreement, nothing contained herein shall be construed as affecting in any way PG&E's right unilaterally to file changes with FERC in rates and rate methodologies under Section 205 of the Federal Power

						Act . . . . The term "rates" as used herein shall mean a statement of electric services as provided in this Agreement, rates and charges for or in connection with those services, and all classifications, practices, rules, regulations, or contracts, including but not limited to this Agreement, which in any manner affect or relate to such services, rates and charges. A change in rates may include, but shall not be limited to, not only changes in rates and charges, but also in the underlying methodology by which such rates and charges are developed.
OAT SA 1	Minnesota Methane			10/1/2016	J&R	

ATTACHMENT E

NOTICE OF FILING SUITABLE FOR PUBLICATION IN THE FEDERAL REGISTER

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System Operator Corporation	))	**Docket No. ER04-928-___**

Notice of Filing

[ ]

Take notice that on December 8, 2004, the California Independent System Operator Corporation (CAISO) submitted its Proposed Conceptual Treatment of Existing Transmission Contracts Under the CAISO's Amended Comprehensive Market Design Proposal (ETC Proposal). The CAISO requests that the Commission approve the ETC Proposal by February 18, 2005.

The CAISO states that this filing has been served upon the Public Utilities Commission of the State of California, the California Energy Commission, the California Electricity Oversight Board, all parties with Scheduling Coordinator Agreements under the CAISO Tariff, and all parties on the official service list for the captioned docket. In addition, the CAISO has posted this filing on its Home Page.

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: ___________