November 21, 2012

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: California Independent System Operator Corporation
Docket No. ER13-____- 000

Amendments to California ISO FERC Electric Tariff to Enable Settlement Rule for Schedules Sourcing and Sinking in the Same Balancing Authority Area

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d, and Part 35 of the Federal Energy Regulatory Commission's (FERC or the Commission) regulations, 18 C.F.R. Part 35, and in compliance with Order No. 714 regarding electronic filing of tariff submittals,[1] the California Independent System Operator Corporation (ISO) hereby submits for filing the attached amendment to its Fifth Replacement FERC Electric Tariff. This amendment would enable the ISO to implement settlement rules to neutralize the revenue derived from intertie circular scheduling practices that are already prohibited under the ISO tariff. This amendment also provides specific parameters for what activity would trigger the new settlement rules and specifies several exceptions to those rules.

The ISO intends to implement these new settlement rules on February 1, 2013. The ISO, therefore, respectfully requests that the Commission issue an order accepting the instant filing by January 28, 2013, with the tariff amendment being effective February 1, 2013.

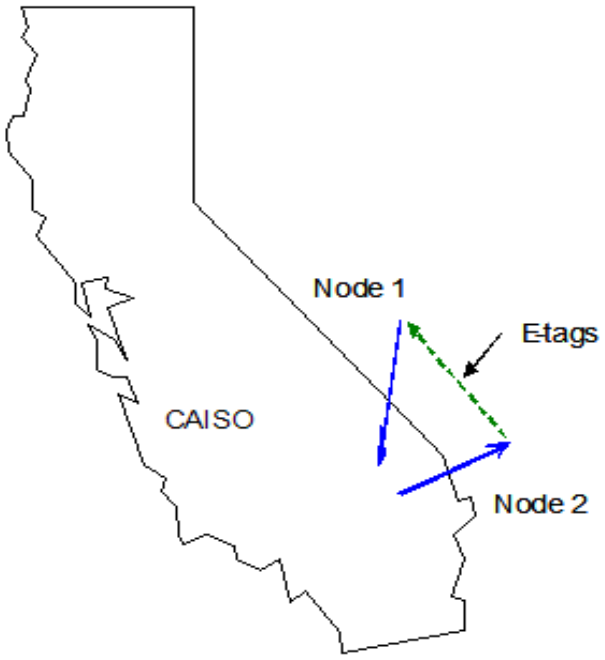
[1] *Electronic Tariff Filings*, Order No. 714, FERC Stats. & Regs. ¶ 31,276 (2008).

I. BACKGROUND

A. Description of Conduct Referred to as "Circular Scheduling"

The term "circular scheduling" refers generally to the delivery of market import and export schedules that have a source and sink in the same balancing authority area, with transmission segments in a second balancing authority area. Such schedules typically are accompanied by an e-Tag for the pair of import and export schedules that lists the same balancing authority area as the source and sink. The tariff amendments proposed in the instant filing relate to one specific type of activity that is considered to be circular scheduling. The specific activity involves bids submitted to the ISO by a single market participant, leading to import and export schedules either in the integrated forward market, which is the first run of the ISO day-ahead market, or in the hour-ahead scheduling process (HASP). Other practices, or variations on the practices described in the instant filing, could also create schedules that are ultimately circular in nature and potentially would violate Commission rules against market manipulation, 18 CFR § 1c.2, and/or the submission of false information, 18 CFR § 35.41(b). The instant filing does not attempt to address this larger set of activity, and the ISO's proposal should not be understood to preclude the ISO or the Commission from potentially taking future action regarding these other activities.

The example in Figure 1 illustrates an example of a circular schedule that is addressed by this filing. This example consists of a market schedule to import power to the ISO using one intertie and export this power at another intertie. In this case it would be an import from Node 1 and an export to Node 2. The import and export could be accomplished through separate import and export bids or by utilizing the ISO's "wheeling through" bid type. The actual circular nature of the combined import and export schedules awarded in the ISO markets is not apparent based only on review of the bids or self-schedules submitted in the ISO markets. Rather, it is necessary for the ISO to review the corresponding e-Tags to confirm that the entity procured external transmission and thus created a closed loop of energy. The e-Tags would show energy exported from the ISO actually being scheduled on transmission outside the ISO, from Node 2 back to its origin at Node 1. Such e-Tags could have a source and sink either inside or outside of the ISO.



In this example, because the power scheduled for export from the ISO would be returned on transmission facilities outside the ISO back to the point where the import was originally scheduled into the ISO, these circular schedules would not produce an actual flow of power. However, a market participant could profit from the circular schedule by submitting bids that arbitrage the price difference between the points at which the energy was scheduled to be imported to, and exported from, the ISO. If the intertie for Node 2 is congested for imports into the ISO, the export schedule from the ISO would be paid for providing counter-flow in the opposite direction. If there is no congestion for imports on the ISO's intertie from Node 1, only nominal costs for the external transmission from Node 2 to Node 1, and the various ISO export fees can be covered from the arbitrage revenue, then the market participant would profit even if there were no actual delivery of energy and no physical change in flows. By submitting the import and export as a wheeling through bid, rather than separate unlinked imports and exports, the market participant can ensure that both the import and export legs would clear the market together at equal MW quantities, and only clear at a specified price difference to ensure that its costs of scheduling transmission through the ISO and adjacent balancing authorities will be covered.[2]

[2] As discussed further in section 2.5.2.2 of the Business Practice Manual for Market Operations, a wheeling through transaction consists of an export bid and a corresponding import bid, which may be self-schedules and/or economic bids. The wheeling through transaction can be specified between any two intertie scheduling points. The schedules of the import and export resources in a wheeling through transaction are kept balanced in the market optimization process (total export MW schedule = total import MW schedule). Wheeling through bids are accepted based on the difference in the bid prices for the import and export components of the wheeling through bids compared to the difference in market clearing LMPs at the import and export points of the wheeling through bid. This allows a wheeling through bid to

B. Potential Concerns Arising from Schedules Sourcing and Sinking in the Same Balancing Authority Area

Schedules like the example above can create operational difficulties and market inefficiencies for the ISO in several ways. Such schedules have the potential to exacerbate unscheduled flows on the ISO's interties by introducing market schedules across the interties that do not produce any actual flow of energy. The schedules do not require any balancing authority to increase or decrease generation in its balancing authority area because the import and export sides of the schedules are equal and thus offset each other. While there is no actual physical flow occurring as a result of these schedules, the ISO market systems are configured such that they account for the additional supply and demand at the respective interties. The incorrect modeling of flows on the ISO's interties resulting from day-ahead schedules that do not match physical flows can produce a sub-optimal unit commitment or mask congestion that will manifest in real-time. In the real-time market, the ISO can mitigate this operational impact somewhat by creating compensating injections or withdrawals in its market model at intertie scheduling points to reflect the difference between scheduled and actual flows. These compensating injections bridge the gap between the day-ahead schedules and real-time flows, but they cannot close the gap completely. One significant limitation in the real-time is the inability to dispatch or commit resources that have start-up times that exceed the time horizon of the real-time market. Therefore, in the real-time, the ISO has a more limited pool of resources at its disposal for redispatch to address congestion. This smaller pool of available generation can cause significant operational challenges for the ISO as it attempts to address in a reliable manner the unrealistic congestion patterns caused by day-ahead circular schedules. These mismatches can also create economic inefficiencies because the ISO is required to pay market participants that submit circular schedules based on the premise that their day-ahead schedules provide congestion relief even though those schedules will not actually reduce any real-time physical flows.

Similarly, circular schedules can create challenges in manually managing congestion in the real-time. In the case where circular schedules are submitted to the HASP, not only can the circular schedule create false congestion, but it can also distort the actual congestion relief the ISO operators are able to effectuate through curtailment of the intertie schedules. In the real-time, after the ISO clears the HASP, the ISO operators may deem it necessary to curtail one or both parts of a circular schedule in order to relieve actual congestion on the ISO grid. However, as with the unscheduled flow example above, if the circular schedule were curtailed for congestion management purposes, the change would not cause any balancing authority to increase or decrease generation under its control because the curtailment would affect its imports and exports

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only be accepted if the difference in LMPs at these two points exceeds the price "spread" incorporated in the prices for the wheeling through bids.

equally and would thus have no impact on physical flows of energy. For this reason, if the ISO's operators need to curtail intertie schedules to relieve real-time congestion of energy flows, their actions would be ineffective if the market schedules to be adjusted do not represent actual flows of energy.

One example of the critical situations in which the ISO must rely on effective congestion management is its operation of the California-Oregon Intertie (also referred to as Path 66). From January 1, 2012 through mid-October 2012, Path 66 has been subject to curtailments under WECC's Unscheduled Flow Mitigation Procedure during 1584 hours. These curtailments occur when the path loading reaches critical levels, after which the ISO as path operator has 30 minutes to restore the flow back to within the Operational Transfer Capability. This 30-minute window is insufficient to allow the ISO to issue curtailments, wait to see if the response is effective or not depending on whether the curtailment was issued to a circular schedule, and then issue additional curtailments in the event that the initial curtailments did not produce the required response. In these hours if there had been a high level of schedules sourcing and sinking in the same balancing authority area, the ISO would have been at risk of not restoring flows to below the Operational Transfer Capability in a timely manner.

C. Treatment in ISO Market Rules and Commission Precedent for Schedules Sourcing and Sinking in the Same Balancing Authority Area

Based on the ISO tariff and Commission precedent, the ISO has consistently refused to condone circular scheduling in its market. The ISO tariff definitions of "Wheeling Out" and "Wheeling Through" transactions provide guidance on how circular schedules are treated under the ISO market rules. These terms are defined as follows:

- Wheeling Out: Except for Existing Rights exercised under an Existing Contract in accordance with Section 16.1, the use of the CAISO Controlled Grid for the transmission of Energy from a Generating Unit located within the CAISO Controlled Grid to serve a Load located outside the transmission and Distribution System of a Participating TO.

- Wheeling Through: Except for Existing Rights exercised under an Existing Contract in accordance with Section 16.1, the use of the CAISO Controlled Grid for the transmission of Energy from a resource located outside the CAISO Controlled Grid to serve a Load located outside the transmission and Distribution System of a Participating TO.

Because these definitions require that a wheeling transaction provide service to loads outside the ISO balancing authority area, a transaction of the sort described in the diagram above is non-compliant with the tariff definition of a wheeling transaction because the ultimate sink is an import back to the ISO balancing authority area. The wheel out did not serve load outside of the ISO balancing authority area and the

submission of the export as a wheel out could constitute the submission of false information and/or market manipulation under Commission rules. The same would apply where a transaction sourcing and sinking in the same balancing authority area were effectuated using the wheeling through functionality.

Historically, the Commission has indicated that circular scheduling practices constitute market manipulation. In 2004, the Commission stated "that Circular Scheduling is an anticompetitive practice which results in distorted market prices and congestion payments that would not have been tendered in the absence of these schedules."[3] At that same time, the Commission also stated that circular scheduling constituted market manipulation under Market Behavior Rule 2(c), the predecessor to the Commission's current anti-manipulation provision.[4]

II. DISCUSSION OF FILING

Due to the serious potential operational difficulties surrounding circular schedules described above, the ISO believes it is necessary to adopt a defined consequence for such practices to ensure that the practice remains as rare as possible. The ISO believes it is necessary to address this issue at this juncture not because it has observed an overwhelming level of such activity. Rather, the ISO is addressing this matter because it does not wish to create the impression that these scheduling practices can occur in the ISO market without consequences. If these trades were to occur with any great frequency, the operational and market inefficiencies described above would pose a significant threat to the ISO's ability to operate the system reliably and would impose unjustifiable costs on ISO market participants that would bear the burden of these inefficiencies. Currently, as discussed above, the ISO tariff contains restrictions on the use of the ISO transmission grid for these types of schedules, but it does not contain a defined consequence for such actions. Therefore, the primary mechanism preventing such activity is an inquiry by the ISO's Department of Market Monitoring (DMM), followed by a potential investigation by the Commission's Office of Enforcement. Relying on such an investigative process does not immediately address the negative impact such trades may have on ISO operations.

The ISO conducted a robust stakeholder process to address these issues, and proposes two measures to address these issues. First, the ISO proposes to adopt a settlement rule that poses a financial consequence to a party engaged in circular scheduling through the ISO balancing authority area. This settlement rule eliminates the financial incentive to engage in such practices, which will address the potential adverse operational and economic impact on the ISO markets. Second, while recognizing that the ISO cannot capture every form of manipulative practice that may be associated with the various forms and permutations of circular schedules, the proposed

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[3] *Cal. Indep. Sys. Operator Corp.*, 106 FERC ¶ 61,179, P 142 (2004).

[4] *Id.*

tariff revisions identify the specific set of circular schedules submitted to the ISO that will be subject to the new settlement rules. To reiterate, there may be other circular scheduling activity not covered by the rules proposed in the instant filing that potentially could be manipulative or involve the submission of false information. These types of issues will continue to be addressed by DMM through potential referrals to the Commission's Office of Enforcement. Such activity might also be addressed through prospective market rule changes.

The ISO's proposal contains several elements. A key part of this filing is the explicit prohibition on a single scheduling coordinator submitting bids that result in that single scheduling coordinator being awarded a schedule with an accompanying e-Tag showing a source and sink in the same balancing authority area. This filing ensures that both energy market revenue and CRR payments generated from such explicitly prohibited and identifiable schedules will be resettled. The ISO also proposes to amend the definitions of wheeling transactions. Finally, the ISO proposes to clarify the interaction between the circular scheduling settlement rule and other market processes, including calculation of price correction derived LMPs and eligibility for bid cost recovery.

A. Prohibition on Single Scheduling Coordinator Schedules Sourcing and Sinking in the Same Balancing Authority Area – § 30.5.5

1. Explanation of the Prohibition – § 30.5.5.1

Proposed section 30.5.5.1 prohibits scheduling coordinators from submitting bids that result in a schedule being awarded that has an e-Tag reflecting a source and sink in the same balancing authority area.[5] This provision explicitly prohibits schedules to the extent that the import and export are awarded to the same scheduling coordinator. Therefore, if one scheduling coordinator is awarded an import to the ISO and another scheduling coordinator is awarded an export from the ISO and those two schedules wind up being on the same e-Tag, then section 30.5.5.1 (as currently proposed) would not be violated. The important requirements are that a single scheduling coordinator receives an import and export for the same interval and the resulting e-Tag shows the source and sink in the same balancing authority area. The source and sink need not be in the ISO balancing authority area as long as part of the closed loop is in the ISO. As explained further below, the specific prohibited behavior specified in this section 30.5.5.1 is subject to the settlement rule that eliminates the economic benefits of such schedules.

Early in the stakeholder process, the ISO also proposed to prohibit multiple scheduling coordinator circular schedules and subject them to the settlement rule

[5] The proposed tariff language uses the defined term "Bid," which under Appendix A of the ISO tariff includes both economic bids and self-schedules.

described in proposed section 11.33. This aspect of the proposal generated significant stakeholder opposition. A broad range of stakeholders claimed that bilateral transactions conducted on trading platforms, such as the Intercontinental Exchange, can include chains of market participants in which an individual party does not know the identity of the various counterparties included in the chain until the time comes to submit e-Tags. Stakeholders asserted that this factor potentially could lead to scheduling coordinators unwittingly submitting bids that are not allowed because they did not have a clear means of determining at the time the transaction is submitted whether those bids are permissible or not. This, according to stakeholders, stands in contrast to single scheduling coordinator transactions, for which it is relatively simple to avoid submitting prohibited bids because the submission of those bids is fully within the control of that single scheduling coordinator. Stakeholders suggested that if the ISO were to prohibit multiple scheduling coordinator circular schedules, the ISO either would create a chilling effect on mutually beneficial arm's-length transactions or would force fundamental changes to be made in how power is traded in the Western markets. The ISO had to balance these stakeholder concerns and assertions against the reality that multiple scheduling coordinator and single scheduling coordinator circular schedules can impact ISO operations in similar ways. The ISO ultimately concluded that through the instant filing it would not prohibit, and thus not impose the settlement rule on, multiple scheduling coordinator circular schedules.

Importantly, however, the ISO's ultimate decision not to impose the proposed settlement rules on multiple scheduling coordinator circular schedules at this time should not be read, in any way, as encouragement or approval for market participants to submit bids leading to such schedules. The ISO does not condone the submission of bids that are intended to create multiple scheduling coordinator circular schedules. The ISO furthermore encourages scheduling coordinators to exercise due diligence to avoid engaging in transactions that result in schedules with an e-Tag that reflects a source and sink in the same balancing authority area. The ISO will monitor for such behavior and will consider whether additional actions may be necessary in the future.

The precise wording of the prohibition also generated stakeholder comment. Some stakeholders suggested that the prohibition be framed in terms of prohibiting particular schedules, rather than prohibiting particular bidding activity.[6] The ISO believes that the proposed tariff language must focus on the submission of bids because scheduling coordinators can control that activity. For example, scheduling coordinators submit bids; they do not submit schedules (with the exception of self-schedules). Through the ISO's market process, submitted bids may lead to the award of schedules. Some stakeholders also suggested that the prohibition be framed in terms of what e-Tags would or would not be acceptable.[7] While there may be ways of mitigating for circular schedules through modifications to the tagging requirements, the

[6] Morgan Stanley; Western Power Trading Forum.

[7] Southern California Edison; Morgan Stanley; Western Power Trading Forum.

rules for how to e-Tag transactions are established by the North American Energy Standards Board and are not within the ISO's purview.[8] For that reason, the ISO did not view it as appropriate to establish a prohibition in terms of how particular transactions could or could not be tagged.

The proposed prohibition against bidding combinations is just and reasonable because it provides a measureable and discernible mechanism for identifying circular scheduling through the ISO balancing authority area. Such schedules can cause adverse operational and economic impacts, as described above, and therefore should be discouraged. Also, the prohibition is narrowly tailored to address specific behavior and does not constitute a general prohibition on the use of the ISO markets to wheel power through the ISO system to serve load elsewhere. The instant tariff revision is tailored to address the concerns raised by stakeholders that under the current market rules parties may avoid transacting on the ISO grid to avoid sanctions for practices that are not meant to be manipulative or deceptive. Finally, it is not unduly discriminatory because it treats all similarly situated bids at the ISO interties similarly and provides exceptions to the rule for entities that may face certain special circumstances, as described further below.

2. Exceptions to the Prohibition – § 30.5.5.2

Proposed section 30.5.5.2 includes four exceptions to the blanket prohibition in proposed section 30.5.5.1. Under the proposed section 30.5.5.2, bids that otherwise would be prohibited under section 30.5.5.1 are not prohibited (and will not be subject to the new settlement rules) if the resulting schedule:

1. Includes the use of a DC intertie.
2. Involves a pseudo-tie generating unit delivering energy to its attaining balancing authority area.
3. Serves load or provides access to generation that temporarily has become isolated from the ISO balancing authority area because of an outage (*i.e.*, there is an "isolated intertie" condition).
4. Involves a wheeling through transaction that is demonstrated to serve load located outside the transmission and distribution system of a participating transmission owner (*i.e.*, the schedule serves "stranded load").

The basis of the first exception is that where a schedule or set of schedules creates a closed loop of energy, but that loop includes a transmission segment on a DC intertie, the schedule directly changes power flows on the network and can mitigate congestion within the ISO controlled grid. Because the schedule actually changes the

[8] *Elec. Mkt. Transparency Provisions of Section 220 of the Fed. Power Act*, 140 FERC ¶ 61232, P 164 n.253 (Sept. 21, 2012).

flow of power, the practice would not create the same type of operational concerns as other schedules forming closed loops. For that reason, it is not necessary to bar bids leading to such schedules.

The second exception is necessary to effectuate balancing authority area principles applicable to pseudo tie generators. Under a pseudo tie arrangement, a generator physically located in a balancing authority area (*i.e.*, the native balancing authority area) has its output telemetered to, and deemed to be produced within, a different balancing authority area (*i.e.*, the attaining balancing authority area). The pseudo tie generator essentially becomes part of the attaining balancing authority area. To deliver power to its attaining balancing authority, the pseudo tie unit must use external transmission and submit an e-Tag to deliver its power. The purpose of this exception is to make clear that such delivery of power should not be considered the first leg of a circular schedule because such delivery is inherent in the notion of having a pseudo tie generator.

The third exception provides that delivery of energy during an "isolated intertie" or "open intertie" condition, as described in section 8.2.2 of the Business Practice Manual for Market Instruments, would not be prohibited under the new rules. An intertie with zero capacity (*i.e.*, an open intertie) can create "stranded load" in that a load serving entity would not be able to serve that load without rerouting the power out of the ISO through the use of an export, using external transmission to get around the outage, and then importing power back into the ISO to serve the load. The ISO's intent is not to jeopardize service to such load. Similarly, an open intertie can create "isolated generation" in that a generator in the ISO balancing authority area may need to route power out of the ISO and then back into the ISO to get around a transmission outage. The ISO's intent is not to prevent generators in such circumstances from delivering their power to the ISO grid.

The fourth exception, which largely tracks the purpose of the third exception, provides that a party wheeling through the ISO balancing authority area to serve load located outside the ISO will not be subject to section 30.5.5.1. When a transmission outage occurs on a line outside the ISO, stranded load or isolated generation may be created outside the ISO balancing authority area. To address this situation, a party may need to wheel through the ISO either to serve its native load or deliver its power.

These exceptions do not provide blanket immunity for any schedule meeting one of the exceptions. Section 30.5.5.2 proposes to provide "that if the circumstances leading to one of the above four conditions being met were excluded from consideration and the resulting hypothetical Schedule(s) could have an associated E-Tag reflecting a source and sink in the same Balancing Authority Area, then the Schedule(s) will be" prohibited. The purpose of this provision, which effectively provides an exception to the four exceptions outlined in proposed section 30.5.5.2, is to avoid creating a loophole whereby a party intent on submitting a circular schedule can immunize itself by adding an element to the schedule that meets one of the four conditions. For example, a

schedule that starts at the Oregon end of Path 65 that comes into California, then goes into Arizona or Nevada, and then comes back to California would be prohibited because when the segment involving the DC intertie is excluded, the resulting schedule is clearly circular and would be prohibited. Finally, the ISO notes that even if a schedule meets one of the defined exceptions, and is thus not subject to the new settlement rules, the conduct leading to that schedule may nevertheless be investigated by DMM and referred to the Commission if there is reason to believe that the conduct is part of an overall manipulative scheme or otherwise involves the submission of false information.

B. Enforcement of the Prohibition

1. The Circular Schedule Settlement Rule – § 11.33

The ISO's approach to enforcing section 30.5.5 is to create an automated rule that eliminates the financial incentive to engage in the prohibited transactions. By making enforcement self-executing, the ISO believes it has created a strong deterrent to submitting the prohibited bids. But for the economic windfalls from submitting the prohibited bids, the ISO does not believe that a single scheduling coordinator generally would have a reason to submit bids leading to circular schedules.

Under the proposed settlement rule, the import portion of a schedule that violates the prohibition created in section 30.5.5.1 will be settled at the lower of the LMP for the intertie where either the import or export was scheduled. The relevant LMP will be the price in the market in which the import was awarded (*e.g.*, if the import is awarded in the HASP, then the relevant LMP to consider is the HASP price for that intertie). The rule thus applies whether or not the import and export were awarded in the same market or are split between the day-ahead and the HASP. Under this rule, a scheduling coordinator trying to arbitrage the difference in price between two interties by submitting bids that violate section 30.5.5.1 will, at best, receive no energy market revenue from the resulting schedule. If the prices are such that the arbitrage attempt is unprofitable (*i.e.*, the export portion of the schedule has a lower relevant LMP than the import portion), the proposed settlement rule dictates that the scheduling coordinator would bear the loss.

As an alternative to the settlement rule, some stakeholders suggested that the ISO simply reject schedules that violate the prohibition.[9] This is not a practical alternative. The ISO market optimization process is unable to identify which bids would violate section 30.5.5.1 because at the time the market is run, the ISO does not yet have access to e-Tags (and they may not have even been submitted yet). Without information about the use of external transmission when the market optimization occurs, the ISO cannot know whether a schedule will source and sink in the same balancing authority area. The ISO would thus have to reject the schedules after the optimization

[9] Powerex Corp.; Brookfield Energy Marketing LP; Calpine Corp.

has run. However, the deadline to submit e-Tags is 20 minutes before the operating hour, which would not provide the ISO sufficient time to review all e-Tags submitted for the upcoming operating hour. Even assuming, *arguendo*, that this provided the ISO sufficient time to scrutinize all of the awarded schedules for the upcoming hour, rejecting schedules would be disruptive to the market as a whole because the market optimization may have a schedule created from prohibited bids as a source of counter-flow for other schedules. Rejecting the prohibited schedules could thus result in curtailments of legitimate schedules during the e-Tag confirmation process in order to ensure that the ISO does not exceed intertie scheduling limits.

One stakeholder suggested that these proposed settlement rules are not necessary and that the ISO simply should make violations subject to referral to the Commission by DMM.[10] The ISO does not intend to circumvent or supplant any actions by DMM or the Office of Enforcement to pursue and penalize parties that engage in manipulative or deceptive practices. Rather, having determined that the practices addressed by the tariff amendment can cause operational and economic problems for the ISO and market participants, the ISO has proposed measures that are necessary to disincentivize parties from engaging in such actions on a day-to-day basis. The settlement rules are narrowly tailored to target specific behavior and provide an efficient market-based incentive for market participants not to engage in such activities. For the conduct prohibited by the proposed section 30.5.5.1, no intense analytic or investigative effort is required to determine whether a violation of the prohibition occurred. Instead, violations can be identified readily through automated after-the-fact screening processes that automatically remove any incentive to engage in the behavior in the first place. Under these circumstances, as compared to a DMM referral and potential Commission investigation, the ISO believes that the automated rule is a more immediate and administrable method of sending the proper market signals to market participants regarding the specific type of behavior that would be prohibited.

Although not raised by stakeholders, the ISO acknowledges that a Commission order in 2004 forbade the ISO from imposing its own penalties for circular scheduling, leaving DMM referral as the default option.[11] In rejecting the proposed penalties, the Commission stated: "Due to the CAISO's inability to track schedules of imports, among other things, this behavior cannot be categorized as 'objectively identifiable.' "[12] The ISO believes, however, that the factors supporting the Commission's earlier position are not present with the instant filing. Under Commission precedent, an independent system operator or regional transmission operator may only impose penalties for objectively defined violations.[13] The Commission has also made clear, however, that

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10 This approach was suggested by the Northern California Power Agency.

11 *Cal. Indep. Sys. Operator Corp.*, 106 FERC ¶ 61,179, at P 142.

12 *Id*.

13 *Market Monitoring Units in Regional Transmission Organizations and*

tariff "provisions that address matters of ordinary tariff administration or mitigation and are not intended to punish a market participant" do not fall within the Commission's rules for "traffic ticket" penalties.[14] Specifically, the Commission has stated that "rescission of payments is not an action intended to punish but rather is an administrative CAISO function intended to correct market outcomes."[15] Based on this more recent precedent, the ISO believes the proposed settlement rule is consistent with Commission guidance on ISO/RTO penalty authority. There is no punitive element to the proposed settlement rules. The ISO merely would rescind payments that should not have been awarded in the first place because the revenue would be earned from bids that are explicitly prohibited in the ISO tariff. The proposal the Commission had before it in 2004, on the other hand, would have imposed a penalty that was not tied to non-payment for transactions based on prohibited market conduct. The ISO's current proposal is also different because the ISO now has greater access to timely e-Tag information than it did in 2004. These new settlement rules can be implemented based on fully objective criteria. Therefore, even if the settlement rule somehow could be characterized as a penalty, it would be an acceptable penalty under the Commission's rules.

2. The Circular Schedule CRR Clawback Rule – § 11.2.4.7

The ISO and stakeholders identified that, in addition to whatever benefit may be achieved by arbitraging price differences between interties, the identified circular schedules may cause a financial windfall in the CRR markets.[16] These financial windfalls create a direct incentive for parties to engage in prohibited activities. Therefore, the ISO proposes to remove the incentive by also resettling any additional CRR revenues a scheduling coordinator would otherwise receive from congestion created or relieved by bids submitted in violation of section 30.5.5.1.[17] Under the proposed section 11.2.4.7, if a schedule created from bids prohibited by section 30.5.5.1 has impacted day-ahead congestion on an intertie, then any CRR payments resulting from such intertie congestion would be rescinded. This resettlement rule recognizes that a schedule sourcing and sinking in the same balancing authority area could impact congestion, and thus increase CRR payments made to the market

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Independent System Operators, 111 FERC ¶ 61,267, at P 5 (2005).

[14] *PJM Interconnection, LLC.*, 134 FERC ¶ 61,040, at P 18 (2011). *See also N.Y. Indep. Sys. Operator Inc.*, 131 FERC ¶ 61,225, PP 18 & 23 (2010).

[15] *Cal. Indep. Sys. Operator Corp.*, 135 FERC ¶ 61,016, P 10 (2011).

[16] The use of circular schedules to benefit a CRR position is likely prohibited market manipulation under FERC rules. In creating an explicit clawback for the incremental CRR revenue generated from circular schedules, the ISO does not mean to suggest that prior to the instant filing it was acceptable to use circular schedules to influence a party's CRR portfolio.

[17] This CRR clawback rule is in addition to, not an alternative to, the proposed settlement rule in section 11.33.

participant holding that schedule. This rule closely parallels the existing CRR clawback for convergence bidding that the Commission has already approved.[18]

Without this rule, a party potentially could submit bids in violation of section 30.5.5.1 and still profit from doing so by altering congestion patterns, even if the direct revenue from submitting the prohibited bids were recaptured through section 11.33. Notably, if the market participant holds counterflow CRRs, it could benefit by using circular schedules to reduce congestion. The ISO believes that under these circumstances, it potentially constitutes market manipulation for a scheduling coordinator to submit energy market bids with the purpose of influencing its CRR portfolio. The proposed CRR clawback rule in section 11.2.4.7 removes the incentive to engage in one variety of such manipulation. As with the settlement rule proposed in section 11.33, the ISO views it as a better approach to create clear settlement disincentives to engage in prohibited conduct, rather than relying solely on a Commission referral to address improper market conduct.

The proposed rule contains three elements. The first element is that part of the schedule resulting from the prohibited bids must be in the day-ahead market. This is because CRRs are settled based on day-ahead congestion. If the schedule in question solely involved the HASP, then the schedule could not influence congestion that factors into settling CRRs. The second element is that the scheduled megawatts from the part of the e-Tag using the ISO grid must have a positive power transfer distribution factor on a congested transmission element. In this case, the question of whether the transmission element is congested is measured with respect to the direction of the CRR.[19] This requirement ensures that the prohibited schedule actually impacted congestion in some way that is relevant to the CRR. The third requirement is that the party submitting the prohibited bids would receive payments or have to make payments from CRRs on the congested transmission element. This final requirement looks to whether the party submitting the prohibited bids would actually stand to benefit in some way from the bids. As with the convergence bidding clawback rule, the ISO will apply this CRR clawback on a scheduling coordinator basis and will not apply it to affiliates as well. However, if one scheduling coordinator's bids in violation of section 30.5.5.1 consistently benefit the CRR portfolio of an affiliated entity, DMM may investigate the matter further and take appropriate action.

If these three requirements are met, then the ISO will recapture the benefit by reducing CRR payments (or increasing CRR charges) in an amount equal to the net

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[18] Section 11.2.4.6.

[19] The draft tariff language posted for stakeholder review did not state specifically that the congestion is measured with respect to the direction of the CRR. The ISO added this clarifying language after the stakeholder review process was complete. Without this clarifying language, the CRR clawback rule potentially could have been read to be inapplicable in cases where the circular schedule reduced congestion to benefit a counterflow CRR. Such a result would have been clearly contrary to the intent of the CRR clawback rule.

CRR revenue that would have been earned from the congestion created or relieved by the prohibited bids.

3. The Role of Ongoing Monitoring and Surveillance

As mentioned above, the instant proposal does not prohibit all activity that could be considered circular scheduling. Other conduct will be the subject of ongoing monitoring and potential referral to the Commission by DMM. For example, while the ISO does not propose to apply the settlement rules to multiple scheduling coordinator circular schedules, it does not encourage such schedules and would have operational concerns if there were a proliferation of such schedules. If the ISO sees growth in multiple scheduling coordinator schedules that source and sink in the same balancing authority area, it will consider prospective revisions to the tariff to prohibit such arrangements. If the ISO believes that a market participant intentionally sought to circumvent the proposed settlement rules by submitting multiple e-Tags that "chop-up" the path of what is essentially a single transaction so as to avoid application of the proposed settlement rule, then DMM would consider referring that conduct as either potentially manipulative or involving the submission of false information. The same would apply if there were reason to believe that a single scheduling coordinator sought to avoid the settlement rule by including a third party on the e-Tag where there was no legitimate arm's-length transaction between the two parties. A final example is if a circular schedule prohibited under section 30.5.5 were part of a broader manipulative or deceptive scheme, then the prohibited schedules could still be part of a potential DMM referral to the Commission. To be clear, these are only examples of issues that may be subject of ongoing monitoring and surveillance.

C. Updating the Definitions of "Wheeling Through" and "Wheeling Out" Transactions – Appendix A

As referenced above, the current definitions of wheeling through and wheeling out transactions require the source of the transaction to be "a resource located outside the CAISO Controlled Grid" or "a Generating Unit located within the CAISO Controlled Grid," respectively. The destination of the wheel must be "to serve a Load located outside the transmission and Distribution System of a Participating TO." The ISO proposes to amend these definitions so that the source of the transaction generally would be outside the CAISO Controlled Grid and inside the CAISO Controlled Grid for wheeling through and wheeling out transactions, respectively. For both types of transactions, the destination of the wheel would be "a point outside the transmission and Distribution System of a Participating TO."

Wheeling transactions, in particular wheel outs, are not necessarily tied to a particular unit. Under the ISO market design, a wheel out generally would be scheduled as power exported from the ISO controlled grid, rather than from a specific generating unit. For this reason, the ISO proposes to amend the definition of wheeling out and wheeling through transactions to only be "Energy from the CAISO Controlled Grid" and

"Energy from outside the CAISO Controlled Grid," respectively. The ISO also proposes to amend the sink of such transactions. The current tariff requires that the wheel be used to serve a specific load. For the purpose of applying the settlement rules, this poses complications because the ISO does not have automated means of determining whether every wheeling transaction is actually to serve a load or whether it becomes part of a hand off to another party in a chain of transactions that is ultimately to serve load outside the ISO balancing authority area. The ISO also does not have the resources to review every wheeling transaction manually. Based on e-Tag information the ISO does, however, have an automated way of determining whether the power was delivered to a point outside the ISO grid. The ISO thus proposes to amend the definition of wheeling out and wheeling through transactions to require that they be used to deliver power to a point outside the ISO. So long as that power is not reimported to the ISO as part of a circular schedule, at this time the ISO does not see any obvious ways that such a transaction, taken on its own, would pose operational or market complications.

D. Clarifying the Interaction between these New Rules and other Existing Market Processes

1. Price Correction Derived LMPs – § 11.21.1

Section 11.21.1 establishes a process for calculating a "Price Correction Derived LMP" in cases where the ISO corrects a LMP upward in a way that impacts demand in the day-ahead and HASP so that a portion of the cleared demand or export curves become uneconomic. Through the instant filing, the ISO proposes to amend this section to clarify that the ISO will not calculate a price correction LMP for the settlement of exports that are part of a schedule resulting from bids submitted in violation of section 30.5.5. There would be no purpose served from calculating the price correction LMP because the purpose of the new settlement rule is to recapture any profits derived from prohibited bids. Calculating a price correction LMP would only change the amount of profit that the ISO essentially zeroes out.

2. Bid Cost Recovery Eligibility – Appendix A

The ISO proposes to amend the definition of the term "Bid Cost Recovery (BCR) Eligible Resources" to state that a resource with a schedule that results from bids submitted in violation of section 30.5.5 "shall not be a Bid Cost Recovery Eligible Resource for any Settlement Interval that occurs during the time period covered by the Schedule that results from Bids submitted in violation of Section 30.5.5." Under this amendment, a resource involved in a schedule of the type prohibited under section 30.5.5 would be ineligible for bid cost recovery for the time covered by the schedule resulting from the prohibited bids. The rationale for this amendment is that once the ISO resettles the revenue from the prohibited bids, the bid cost recovery mechanism should not restore a portion of that revenue.

III. DESCRIPTION OF STAKEHOLDER PROCESS

The ISO has followed a lengthy stakeholder process.[20] The formal stakeholder process commenced in June 2011 with the publication of an issue paper, followed by subsequent rounds of papers and stakeholder teleconferences. The proposal was approved by the ISO Board of Governors on March 22, 2012. Following Board approval, the ISO held a tariff stakeholder process in which it published two sets of proposed tariff language.

As discussed above, the most significant issue to arise during the stakeholder process was the question of whether the new settlement rule would apply to all schedules sourcing and sinking in the same balancing authority area, irrespective of how many entities may be involved in the transaction, or would be limited to such schedules that involved only one scheduling coordinator. The ISO initially proposed to apply the rule to all schedules. Many stakeholders expressed concern that the prevalence of "blind" transactions meant that an entity purchasing power at a delivery point external to the ISO for the purpose of importing the power into the ISO would not necessarily know the source of its power. In cases where the power was exported from the ISO both parties would be subject to the settlement rule even though neither party necessarily knew that the ultimate schedule was prohibited. While acknowledging that such schedules could pose the same system risks as single scheduling coordinator transactions, the ISO ultimately concluded that it would not seek to apply the settlement rule to multiple scheduling coordinator transactions in this filing. However, there is virtual unanimity that the rule should apply to single scheduling coordinator circular schedules.

IV. EFFECTIVE DATES

The ISO respectfully requests that the tariff amendments, contained in the instant filing, be approved as of February 1, 2013. The ISO requests that the Commission issue an order on this matter by January 28, 2013 to allow the ISO sufficient time to make alternative plans in the event that the proposed tariff amendments are not approved as proposed.

V. COMMUNICATIONS

Communications regarding this filing should be addressed to the following individual. The individual identified with an asterisk is the person whose name should be placed on the official service list established by the Secretary with respect to this submittal:

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[20] More information on the ISO's stakeholder process (including stakeholder comments) is available at: http://www.caiso.com/informed/Pages/StakeholderProcesses/CircularScheduling.aspx.

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VI. SERVICE

The ISO has served copies of this transmittal letter, and all attachments, on the California Public Utilities Commission and the California Energy Commission, and all parties with effective Scheduling Coordinator Service Agreements under the ISO Tariff. In addition, the ISO is posting this transmittal letter and all attachments on the ISO website.

VII. ATTACHMENTS

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

Attachment A Revised ISO Tariff Sheets – Clean

Attachment B Revised ISO Tariff Sheets – Blackline

Attachment C California Board of Governors Memo on Circular Scheduling

VIII. CONCLUSION

For the foregoing reasons, the ISO respectfully requests that the Commission approve this tariff revision as filed. Please contact the undersigned if you have any questions concerning this matter.

Respectfully submitted,

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Attorneys for the California Independent
System Operator Corporation

Dated: November 21, 2012

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Circular Scheduling Amendment

Attachment A - Clean Tariff

November 21, 2012

11.2.4.6 Adjustment of CRR Revenue Related to Virtual Awards

The CAISO will adjust the revenue from the CRRs of a CRR Holder that is also a Convergence Bidding Entity, and will adjust the revenue from the CRRs of a CRR Holder (regardless of whether the CRR Holder is also a Convergence Bidding Entity) where the Scheduling Coordinator representing that CRR Holder has reduced a Day-Ahead import or export Schedule in the HASP as set forth in Section 11.32, whenever the virtual bidding activity on behalf of that entity or a reduction to a Day-Ahead import or export Schedule in the HASP has had a significant impact on the value of the CRRs in the DAM as determined in accordance with the following steps.

(a) For purposes of this Section 11.2.4.6 and the definition of Flow Impact, any reduction by a Scheduling Coordinator submitting Schedules on behalf of an entity that is a CRR Holder to an import or export Schedule in the HASP will be treated as a Virtual Award. For each CRR Holder subject to this Section 11.2.4.6, for each hour, and for each Constraint binding in the IFM, HASP, or RTD, the CAISO will calculate the Flow Impact of the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder, excluding Virtual Awards at LAPs and generation Trading Hubs.

(b) The CAISO will determine the peak and off-peak hours of the day in which Congestion on the Transmission Constraint was significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder. Congestion on the Transmission Constraint will be deemed to have been significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder if the Flow Impact passes two criteria. First, the Flow Impact must be in the direction to increase the value of the CRR Holder's CRR portfolio. Second, the Flow Impact must exceed the threshold percentage of the flow limit for the Transmission Constraint. The threshold percentage is ten (10) percent of the flow limit for each Transmission Constraint.

(c) For each peak or off-peak hour that passes both criteria in Section 11.2.4.6(b), the CAISO will compare the Transmission Constraint's impact on the Day-Ahead Market value of the CRR Holder's CRR portfolio with the Transmission Constraint's impact on the HASP or Real-Time Market value of the CRR Holder's CRR portfolio, as applicable.

(d) The CAISO will adjust the peak or off-peak period revenue from the CRR Holder's CRRs in the event that, over the peak or off-peak period of a day, the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio, as applicable. The amount of the peak period adjustment will be the amount by which the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio for the peak-period hours that passed both criteria in Section 11.2.4.6(b), as applicable. The amount of the off-peak period adjustment will be the amount by which the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio for the off-peak period hours that passed both criteria in Section 11.2.4.6(b), as applicable.

All adjustments of CRR revenue calculated pursuant to this Section 11.2.4.6 will be added to the CRR Balancing Account.

11.2.4.7 Adjustment of CRR Revenue Related to Schedules that Source and Sink in the Same Balancing Authority Area

The CAISO will adjust the revenue from the CRRs of a CRR Holder where the Scheduling Coordinator representing that CRR Holder has submitted Bids (including Self-Schedules), in violation of Section

30.5.5 and the resulting Schedule(s) impacts the value of the CRRs in the DAM held by that CRR Holder (or any affiliate of that CRR Holder). Such adjustment will occur if the following circumstances are all met:

(a) A portion of the E-Tag that uses the CAISO Controlled Grid relates to a Schedule in the Day-Ahead Market;

(b) The scheduled MW on the portion of the E-Tag using the CAISO Controlled Grid has a positive PTDF on a congested transmission element, where that congestion is measured in the direction of the CRR; and

(c) The CRR Holder (or an affiliate of the CRR Holder) would receive payments from CRRs on the congested transmission element.

If such circumstances occur, the revenue adjustment will be a reduction in payments, or increase in charges, to the CRR Holder equal to the additional net CRR revenue that otherwise would be earned from the congestion created by the Schedule that results from the Bids submitted in violation of Section 30.5.5.

* * *

11.21.1 CAISO Demand and Exports

If the CAISO corrects an LMP in the upward direction pursuant to Section 35 that impacts Demand in the Day-Ahead Market and the HASP such that either a portion of or the entire cleared CAISO Demand or export Economic Bid curve becomes uneconomic, then the CAISO will calculate and apply the Price Correction Derived LMP for settlement of CAISO Demand and exports in Section 11.2.1.2, 11.2.3, 11.2.1.4 and 11.4.1. The CAISO shall not calculate and apply a Price Correction Derived LMP for settlement of exports that are part of a Schedule that results from Bids submitted in violation of Section 30.5.5. The CAISO will calculate a Price Correction Derived LMP for each affected CAISO Demand and exports as follows: the total cleared MWhs of CAISO Demand or exports in the Day-Ahead Schedule or HASP Intertie Schedule, as applicable, multiplied by the corrected LMP, minus the make-whole payment amount, all of which is divided by the total cleared MWhs of CAISO Demand or export in the Day-Ahead Schedule or HASP Intertie Schedule, as applicable. The make-whole payment amount will be calculated on an hourly basis determined by the area between the Scheduling Coordinator's CAISO Demand or Export Bid curve and the corrected LMP, which is calculated as the MWhs for each of the cleared bid

segments in the Day-Ahead Schedule or HASP Intertie Schedule for the affected resource, multiplied by the maximum of zero or the corrected LMP minus the bid segment price. For the purpose of this calculation, the CAISO will not factor in a make-whole payment amount for Self-Scheduled CAISO Demand or exports. Any non-zero amounts in revenue collected as a result of the application of the Price Correction Derived LMP will be captured through the calculation of the IFM Congestion Charge reflected in Section 11.2.4.1 and the allocation of non-zero amounts of the sum of Imbalance Energy, Uninstructed Imbalance Energy, and Unaccounted for Energy in accordance with Section 11.5.4.

11.33 Settling Revenue from Schedule Sourcing/Sinking in Same BAA

The import portion of any Schedule resulting from Bids submitted in violation of Section 30.5.5 will be settled at the lower of the: (a) LMP of the Scheduling Point for the import portion of the Schedule in the market in which the import portion of the Schedule was awarded; or (b) LMP of the Scheduling Point for the export portion of the Schedule in the market in which the export portion of the Schedule was awarded. Such settlement will occur irrespective of whether the import and export were scheduled in the same market or are split between the Day-Ahead Market and HASP.

* * *

30.5.5 Scheduling Sourcing/Sinking in Same Balancing Authority Area

30.5.5.1 Prohibition

A Scheduling Coordinator is prohibited from submitting Bids that result in a Schedule(s) being awarded to that single Scheduling Coordinator that has an associated E-Tag reflecting a source and sink in the same Balancing Authority Area. A Schedule or Schedules resulting from Bids submitted in violation of this Section 30.5.5.1 will be settled according to Section 11.2.4.7 and Section 11.33.

30.5.5.2 Exceptions to Prohibition

Bids that otherwise would be prohibited under Section 30.5.5.1 are permitted, and the resulting Schedule(s) will not be settled according to Section 11.2.4.7 and Section 11.33, if any of the following four conditions cause the associated E-Tag to have a source and sink in the same Balancing Authority Area.

(a) The Schedule(s) includes a transmission segment on a DC Intertie.

(b) The Schedule(s) involves a Pseudo-Tie generating unit delivering energy from its Native Balancing Authority Area to an Attaining Balancing Authority Area.

(c) The Schedule(s) are used either to: (i) serve Load that temporarily has become isolated from the CAISO Balancing Authority Area because of an Outage; or (ii) deliver Power from a Generating Unit that temporarily has become isolated from the CAISO Balancing Authority Area because of an Outage.

(d) The Schedule(s) involve a Wheeling Through transaction that the Scheduling Coordinator can demonstrate was used to serve load located outside the transmission and Distribution System of a Participating TO.

Provided, however, that if the circumstances leading to one of the above four conditions being met were excluded from consideration and the resulting hypothetical Schedule(s) could have an associated E-Tag reflecting a source and sink in the same Balancing Authority Area, then the Schedule(s) will be settled according to Section 11.2.4.7 and Section 11.33.

* * *

Appendix A

Master Definitions Supplement

- Bid Cost Recovery (BCR) Eligible Resources
Those resources eligible to participate in the Bid Cost Recovery as specified in Section 11.8, which include Generating Units, System Units, System Resources, Participating Loads, and Proxy Demand Resources. A System Resource that has a Schedule that results from Bids submitted in violation of Section 30.5.5 shall not be a Bid Cost Recovery Eligible Resource for any Settlement Interval that occurs during the time period covered by the Schedule that results from Bids submitted in violation of Section 30.5.5.

* * *

- Wheeling Out
Except for Existing Rights exercised under an Existing Contract in accordance with Section 16.1, the use of the CAISO Controlled Grid for the transmission of Energy from the CAISO Controlled Grid (which includes a Pseudo-Tie of a Generating Unit to the CAISO Balancing Authority Area) for delivery to a point outside the transmission and Distribution System of a Participating TO.

* * *

- Wheeling Through

Except for Existing Rights exercised under an Existing Contract in accordance with Section 16.1, the use of the CAISO Controlled Grid for the transmission of Energy from outside the CAISO Controlled Grid for delivery to a point outside the transmission and Distribution System of a Participating TO.

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

Circular Scheduling Amendment

Attachment B - Marked Tariff

November 21, 2012

11.2.4.6 Adjustment of CRR Revenue Related to Virtual Awards

The CAISO will adjust the revenue from the CRRs of a CRR Holder that is also a Convergence Bidding Entity, and will adjust the revenue from the CRRs of a CRR Holder (regardless of whether the CRR Holder is also a Convergence Bidding Entity) where the Scheduling Coordinator representing that CRR Holder has reduced a Day-Ahead import or export Schedule in the HASP as set forth in Section 11.32, whenever the virtual bidding activity on behalf of that entity or a reduction to a Day-Ahead import or export Schedule in the HASP has had a significant impact on the value of the CRRs in the DAM as determined in accordance with the following steps.

(a) For purposes of this Section 11.2.4.6 and the definition of Flow Impact, any reduction by a Scheduling Coordinator submitting Schedules on behalf of an entity that is a CRR Holder to an import or export Schedule in the HASP will be treated as a Virtual Award. For each CRR Holder subject to this Section 11.2.4.6, for each hour, and for each Constraint binding in the IFM, HASP, or RTD, the CAISO will calculate the Flow Impact of the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder, excluding Virtual Awards at LAPs and generation Trading Hubs.

(b) The CAISO will determine the peak and off-peak hours of the day in which Congestion on the Transmission Constraint was significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder. Congestion on the Transmission Constraint will be deemed to have been significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder if the Flow Impact passes two criteria. First, the Flow Impact must be in the direction to increase the value of the CRR Holder's CRR portfolio. Second, the Flow Impact must exceed the threshold percentage of the flow limit for the Transmission Constraint. The threshold percentage is ten (10) percent of the flow limit for each Transmission Constraint.

(c) For each peak or off-peak hour that passes both criteria in Section 11.2.4.6(b), the CAISO will compare the Transmission Constraint's impact on the Day-Ahead Market value of the CRR Holder's CRR portfolio with the Transmission Constraint's impact on the HASP or Real-Time Market value of the CRR Holder's CRR portfolio, as applicable.

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All adjustments of CRR revenue calculated pursuant to this Section 11.2.4.6 will be added to the CRR Balancing Account.

11.2.4.7 Adjustment of CRR Revenue Related to Schedules that Source and Sink in the Same Balancing Authority Area

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(c) The CRR Holder (or an affiliate of the CRR Holder) would receive payments from CRRs on the congested transmission element.

If such circumstances occur, the revenue adjustment will be a reduction in payments, or increase in charges, to the CRR Holder equal to the additional net CRR revenue that otherwise would be earned from the congestion created by the Schedule that results from the Bids submitted in violation of Section 30.5.5.

* * *

11.21.1 CAISO Demand and Exports

If the CAISO corrects an LMP in the upward direction pursuant to Section 35 that impacts Demand in the Day-Ahead Market and the HASP such that either a portion of or the entire cleared CAISO Demand or export Economic Bid curve becomes uneconomic, then the CAISO will calculate and apply the Price Correction Derived LMP for settlement of CAISO Demand and exports in Section 11.2.1.2, 11.2.3, 11.2.1.4 and 11.4.1. The CAISO shall not calculate and apply a Price Correction Derived LMP for settlement of exports that are part of a Schedule that results from Bids submitted in violation of Section 30.5.5. The CAISO will calculate a Price Correction Derived LMP for each affected CAISO Demand and exports as follows: the total cleared MWhs of CAISO Demand or exports in the Day-Ahead Schedule or HASP Intertie Schedule, as applicable, multiplied by the corrected LMP, minus the make-whole payment amount, all of which is divided by the total cleared MWhs of CAISO Demand or export in the Day-Ahead Schedule or HASP Intertie Schedule, as applicable. The make-whole payment amount will be calculated on an hourly basis determined by the area between the Scheduling Coordinator's CAISO Demand or Export Bid curve and the corrected LMP, which is calculated as the MWhs for each of the cleared bid

segments in the Day-Ahead Schedule or HASP Intertie Schedule for the affected resource, multiplied by the maximum of zero or the corrected LMP minus the bid segment price. For the purpose of this calculation, the CAISO will not factor in a make-whole payment amount for Self-Scheduled CAISO Demand or exports. Any non-zero amounts in revenue collected as a result of the application of the Price Correction Derived LMP will be captured through the calculation of the IFM Congestion Charge reflected in Section 11.2.4.1 and the allocation of non-zero amounts of the sum of Imbalance Energy, Uninstructed Imbalance Energy, and Unaccounted for Energy in accordance with Section 11.5.4.

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* * *

30.5.5 Scheduling Sourcing/Sinking in Same Balancing Authority Area

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30.5.5.2 Exceptions to Prohibition

Bids that otherwise would be prohibited under Section 30.5.5.1 are permitted, and the resulting Schedule(s) will not be settled according to Section 11.2.4.7 and Section 11.33, if any of the following four conditions cause the associated E-Tag to have a source and sink in the same Balancing Authority Area.

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* * *

- Wheeling Out

Except for Existing Rights exercised under an Existing Contract in accordance with Section 16.1, the use of the CAISO Controlled Grid for the transmission of Energy from ~~a Generating Unit located within~~ the CAISO Controlled Grid (which includes a Pseudo-Tie of a Generating Unit to the CAISO Balancing Authority Area) ~~to serve a Load located~~ for delivery to a point outside the transmission and Distribution System of a Participating TO.

* * *

- Wheeling Through

Except for Existing Rights exercised under an Existing Contract in accordance with Section 16.1, the use of the CAISO Controlled Grid for the transmission of Energy from ~~a resource located~~ outside the CAISO Controlled Grid for delivery to a point~~serve a Load located~~ outside the transmission and Distribution System of a Participating TO.

California Independent System Operator Corporation

Fifth Replacement FERC Electric Tariff

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November 21, 2012

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(b) The CAISO will determine the peak and off-peak hours of the day in which Congestion on the Transmission Constraint was significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder. Congestion on the Transmission Constraint will be deemed to have been significantly impacted by the Virtual Awards awarded to the Scheduling Coordinator that represents the CRR Holder if the Flow Impact passes two criteria. First, the Flow Impact must be in the direction to increase the value of the CRR Holder's CRR portfolio. Second, the Flow Impact must exceed the threshold percentage of the flow limit for the Transmission Constraint. The threshold percentage is ten (10) percent of the flow limit for each Transmission Constraint.

(c) For each peak or off-peak hour that passes both criteria in Section 11.2.4.6(b), the CAISO will compare the Transmission Constraint's impact on the Day-Ahead Market value of the CRR Holder's CRR portfolio with the Transmission Constraint's impact on the HASP or Real-Time Market value of the CRR Holder's CRR portfolio, as applicable.

(d) The CAISO will adjust the peak or off-peak period revenue from the CRR Holder's CRRs in the event that, over the peak or off-peak period of a day, the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio, as applicable. The amount of the peak period adjustment will be the amount by which the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio for the peak-period hours that passed both criteria in Section 11.2.4.6(b), as applicable. The amount of the off-peak period adjustment will be the amount by which the Transmission Constraint's contribution to the Day-Ahead Market value of the CRR Holder's CRR portfolio exceeds the Transmission Constraint's contribution to the HASP or Real-Time Market value of the CRR Holder's CRR portfolio for the off-peak period hours that passed both criteria in Section 11.2.4.6(b), as applicable.

All adjustments of CRR revenue calculated pursuant to this Section 11.2.4.6 will be added to the CRR Balancing Account.

11.2.4.7 Adjustment of CRR Revenue Related to Schedules that Source and Sink in the Same Balancing Authority Area

The CAISO will adjust the revenue from the CRRs of a CRR Holder where the Scheduling Coordinator representing that CRR Holder has submitted Bids (including Self-Schedules), in violation of Section

30.5.5 and the resulting Schedule(s) impacts the value of the CRRs in the DAM held by that CRR Holder (or any affiliate of that CRR Holder). Such adjustment will occur if the following circumstances are all met:

(a) A portion of the E-Tag that uses the CAISO Controlled Grid relates to a Schedule in the Day-Ahead Market;

(b) The scheduled MW on the portion of the E-Tag using the CAISO Controlled Grid has a positive PTDF on a congested transmission element, where that congestion is measured in the direction of the CRR; and

(c) The CRR Holder (or an affiliate of the CRR Holder) would receive payments from CRRs on the congested transmission element.

If such circumstances occur, the revenue adjustment will be a reduction in payments, or increase in charges, to the CRR Holder equal to the additional net CRR revenue that otherwise would be earned from the congestion created by the Schedule that results from the Bids submitted in violation of Section 30.5.5.

* * *

11.21.1 CAISO Demand and Exports

If the CAISO corrects an LMP in the upward direction pursuant to Section 35 that impacts Demand in the Day-Ahead Market and the HASP such that either a portion of or the entire cleared CAISO Demand or export Economic Bid curve becomes uneconomic, then the CAISO will calculate and apply the Price Correction Derived LMP for settlement of CAISO Demand and exports in Section 11.2.1.2, 11.2.3, 11.2.1.4 and 11.4.1. The CAISO shall not calculate and apply a Price Correction Derived LMP for settlement of exports that are part of a Schedule that results from Bids submitted in violation of Section 30.5.5. The CAISO will calculate a Price Correction Derived LMP for each affected CAISO Demand and exports as follows: the total cleared MWhs of CAISO Demand or exports in the Day-Ahead Schedule or HASP Intertie Schedule, as applicable, multiplied by the corrected LMP, minus the make-whole payment amount, all of which is divided by the total cleared MWhs of CAISO Demand or export in the Day-Ahead Schedule or HASP Intertie Schedule, as applicable. The make-whole payment amount will be calculated on an hourly basis determined by the area between the Scheduling Coordinator's CAISO Demand or Export Bid curve and the corrected LMP, which is calculated as the MWhs for each of the cleared bid

segments in the Day-Ahead Schedule or HASP Intertie Schedule for the affected resource, multiplied by the maximum of zero or the corrected LMP minus the bid segment price. For the purpose of this calculation, the CAISO will not factor in a make-whole payment amount for Self-Scheduled CAISO Demand or exports. Any non-zero amounts in revenue collected as a result of the application of the Price Correction Derived LMP will be captured through the calculation of the IFM Congestion Charge reflected in Section 11.2.4.1 and the allocation of non-zero amounts of the sum of Imbalance Energy, Uninstructed Imbalance Energy, and Unaccounted for Energy in accordance with Section 11.5.4.

11.33 Settling Revenue from Schedule Sourcing/Sinking in Same BAA

The import portion of any Schedule resulting from Bids submitted in violation of Section 30.5.5 will be settled at the lower of the: (a) LMP of the Scheduling Point for the import portion of the Schedule in the market in which the import portion of the Schedule was awarded; or (b) LMP of the Scheduling Point for the export portion of the Schedule in the market in which the export portion of the Schedule was awarded. Such settlement will occur irrespective of whether the import and export were scheduled in the same market or are split between the Day-Ahead Market and HASP.

* * *

30.5.5 Scheduling Sourcing/Sinking in Same Balancing Authority Area

30.5.5.1 Prohibition

A Scheduling Coordinator is prohibited from submitting Bids that result in a Schedule(s) being awarded to that single Scheduling Coordinator that has an associated E-Tag reflecting a source and sink in the same Balancing Authority Area. A Schedule or Schedules resulting from Bids submitted in violation of this Section 30.5.5.1 will be settled according to Section 11.2.4.7 and Section 11.33.

30.5.5.2 Exceptions to Prohibition

Bids that otherwise would be prohibited under Section 30.5.5.1 are permitted, and the resulting Schedule(s) will not be settled according to Section 11.2.4.7 and Section 11.33, if any of the following four conditions cause the associated E-Tag to have a source and sink in the same Balancing Authority Area.

(a) The Schedule(s) includes a transmission segment on a DC Intertie.

(b) The Schedule(s) involves a Pseudo-Tie generating unit delivering energy from its Native Balancing Authority Area to an Attaining Balancing Authority Area.

(c) The Schedule(s) are used either to: (i) serve Load that temporarily has become isolated from the CAISO Balancing Authority Area because of an Outage; or (ii) deliver Power from a Generating Unit that temporarily has become isolated from the CAISO Balancing Authority Area because of an Outage.

(d) The Schedule(s) involve a Wheeling Through transaction that the Scheduling Coordinator can demonstrate was used to serve load located outside the transmission and Distribution System of a Participating TO.

Provided, however, that if the circumstances leading to one of the above four conditions being met were excluded from consideration and the resulting hypothetical Schedule(s) could have an associated E-Tag reflecting a source and sink in the same Balancing Authority Area, then the Schedule(s) will be settled according to Section 11.2.4.7 and Section 11.33.

* * *

Appendix A

Master Definitions Supplement

- Bid Cost Recovery (BCR) Eligible Resources

Those resources eligible to participate in the Bid Cost Recovery as specified in Section 11.8, which include Generating Units, System Units, System Resources, Participating Loads, and Proxy Demand Resources. A System Resource that has a Schedule that results from Bids submitted in violation of Section 30.5.5 shall not be a Bid Cost Recovery Eligible Resource for any Settlement Interval that occurs during the time period covered by the Schedule that results from Bids submitted in violation of Section 30.5.5.

* * *

- Wheeling Out

Except for Existing Rights exercised under an Existing Contract in accordance with Section 16.1, the use of the CAISO Controlled Grid for the transmission of Energy from ~~a Generating Unit located within~~ the CAISO Controlled Grid (which includes a Pseudo-Tie of a Generating Unit to the CAISO Balancing Authority Area) ~~to serve a Load located~~ for delivery to a point outside the transmission and Distribution System of a Participating TO.

* * *

- Wheeling Through

Except for Existing Rights exercised under an Existing Contract in accordance with Section 16.1, the use of the CAISO Controlled Grid for the transmission of Energy from ~~a resource located~~ outside the CAISO Controlled Grid for delivery to a point~~serve a Load located~~ outside the transmission and Distribution System of a Participating TO.

Attachment C – Memorandum to ISO Board of Governors

Circular Scheduling Amendment

California Independent System Operator

Fifth Replacement FERC Electric Tariff

November 21, 2012

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market and Infrastructure Development

Date: March 15, 2012

Re: **Decision on Circular Scheduling**

This memorandum requires Board action.

EXECUTIVE SUMMARY

In response to stakeholder requests, Management seeks approval of a proposal that provides greater clarity in the ISO's market design on a practice known as "circular scheduling." The proposal defines objective criteria to identify the type of schedule that would be addressed by a market rule, and identifies settlement provisions intended to significantly reduce the financial incentive to engage in this type of scheduling. The settlement rule would apply to schedules involving a single scheduling coordinator.

Circular scheduling is the combination of import and export schedules, commonly accepted to be by a single entity, where the source and sink of the transaction is in the same balancing area. Circular schedules do not affect the actual flow of power. Rather, circular schedules can adversely affect real-time operations by contributing to differences between scheduled and actual flow. However, circular schedules can provide a financial opportunity when energy prices differ where energy is imported and exported.

For identified circular schedules whose scheduling coordinator is the same for the source and the sink, the proposal settles the import to the ISO at the lower of the locational marginal prices at the scheduling points for the import and export. The proposed settlement removes financial incentives for a scheduling coordinator to arrange a circular schedule.

Moved, that the ISO Board of Governors approves the policy to implement modifications to the settlement of circular schedules, as described in the memorandum dated March 15, 2012; and

Moved, that the ISO Board of Governors authorizes Management to make all the necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.

Management also considered schedules involving multiple scheduling coordinators with sources and sinks in the same balancing area. Management recommends that the ISO continue to monitor for the volume and operational impact of these schedules. If the volume and operational impact of schedules involving multiple scheduling coordinators increases, the ISO will consider extending the market rule to them. This measured approach responds to stakeholder concerns and recognizes that commercial trading through exchanges and brokers can occasionally produce schedules with the same source and sink balancing area without any intent of scheduling a transaction that is circular in nature. Imposing a settlement rule based on the current level of activity could unduly restrict commercial activity.

BACKGROUND

Circular schedules do not produce an actual flow of power. However, a market participant could financially benefit by earning the price difference between the points at which the energy was scheduled to be imported to and exported from the ISO. This can be explained using the following example as illustrated in Figure 1.

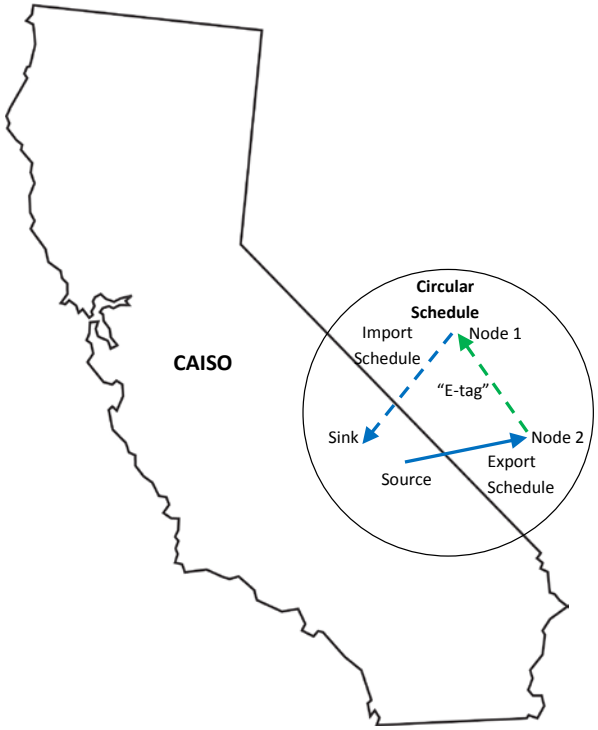

Figure 1: Circular Schedule Illustration

The circular schedule consists of a market schedule to import power to the ISO using one intertie (Node 1) and export this power at another intertie (Node 2), which is often in a different balancing area than Node 1. The actual circular nature of the combined import and export schedules is not apparent based only on review of the schedules submitted in the ISO market. Rather, the circular nature of the schedule only becomes apparent after the market is complete and the full description of the

transaction including the location of the source and sink and all intervening transmission paths is described in the "e-tag" used to coordinate interchange transactions between balancing areas.

Because the power scheduled for export from the ISO would be returned back to the point where the import originated, these circular schedules would not produce an actual flow of power. However, a market participant could profit from the circular schedule by earning the price difference between the points at which the energy was scheduled to be imported to and exported from the ISO. If the intertie for Node 2 is congested for imports into the ISO, the export schedule from the ISO would be paid for providing counter-flow in the opposite direction. If there is no congestion for imports on the ISO's intertie from Node 1, and only nominal costs for the external transmission from Node 2 to Node 1, the market participant would profit even if there is no actual delivery of energy and no physical change in flows.

The ISO has operational and market concerns that can result from circular scheduling, including:

- These schedules have the potential to exacerbate unscheduled flows on the ISO's interties by introducing market schedules that will not produce any actual flow of energy.
- Increasing congestion management costs that are imposed on other market participants.
- Circular schedules can also make it more difficult for ISO operators to manually manage congestion if needed in real time.

Prior to implementation of the current market in 2009, the tariff had explicitly prohibited circular scheduling. The prior explicit language used was removed as it was not applicable to the new market design. Some stakeholders assert that the tariff's definitions that support the current market provide ambiguous guidance on the permissibility of circular scheduling. Among the outcomes of this proposal, the ISO will address the identified ambiguities by clarifying the tariff, including the definition of "wheeling".

FERC has determined that circular schedules can violate FERC rules prohibiting market manipulation, such as when circular schedules are used to profit by ostensibly relieving congestion. For example, in 2004, FERC stated that circular scheduling constituted market manipulation and would be covered under its Market Rule 2, which was is the predecessor to FERC's current rule prohibiting market manipulation (18 C.F.R. § 1c.2).

Stakeholders have generally agreed that a circular schedule transaction involving a single scheduling coordinator can be avoided and therefore should be addressed. However, a contentious point in the stakeholder process has been whether and how a market rule would apply to transactions involving multiple scheduling coordinators. Stakeholders assert that blind trading through exchanges and brokers can unintentionally lead to scheduled transactions with the same source and sink. One

stakeholder recommendation was that the ISO should monitor, track, and publicly report the volume of multi-party circular schedules for approximately one year, after which the issue of implementing a settlement rule for such schedules could be revisited.

Observing that the ISO already has historical e-tag data, the ISO reviewed all e-tags received during a recent one-year period, from September 2010 through August 2011. After filtering out schedules that would not be subject to or affected by the proposed settlement rule, this analysis focused on 3086 hourly e-tags that may be affected. Among these schedules, 85% involved multiple SCs, and 95% of these had their export at a single intertie. A single scheduling coordinator was the exporter in 59% of the schedules, of which 93% returned to ISO as imports by two counterparties on other interties. Although many of the remaining schedules by other scheduling coordinators do have patterns that can be expected from trades through exchanges and brokers, as commercial trading unintentionally produces transactions with the same source and sink, these percentages reflect activity that does not appear random.

PROPOSAL

The ISO's proposal for addressing circular schedules removes incentives for intentional schedules through settlements. Although some stakeholders have suggested rejecting transactions with the same source and sink, this could impact other market participants by affecting total ISO intertie schedules. If a circular schedule were providing counter-flow on a congested transmission constraint, rejecting the circular schedule would leave the remaining schedules above the allowable scheduling limit and would require them to be reduced.

Objective criteria that the ISO can reasonably apply are:

- A schedule or set of schedules (as shown on an e-tag) creating a closed loop between the ISO controlled grid and one or more other balancing areas, which do not have a source and sink in separate balancing areas, will be subject to a settlement rule except as follows:
    - Closed loops that include a transmission segment on a (direct current) intertie, because such a schedule directly changes power flows on the network and can mitigate congestion within the ISO controlled grid,
    - Delivery from a pseudo-tie generating unit to the balancing areas with which it becomes associated, or
    - Delivery of energy during an "isolated intertie" or "open intertie" condition, as described in the Business Practice Manual for Market Instruments, or wheeling through the ISO controlled grid from a source outside the ISO controlled grid, to a load outside the transmission and distribution system of a

participating transmission owner when the only means to serve such load is through the ISO controlled grid.

- This proposal does not test whether a schedule is in a counter direction over a congested inter-zonal interface, as the tariff definitions did prior to the current market. In practical terms, the settlement rule will only have a financial consequence if the import price is higher than the export price.

To remove the incentive for submitting such schedules, the ISO will settle the import to the ISO at the lower of the locational marginal prices at the scheduling points for the import and export, for the market in which they are scheduled. In addition, if a schedule subject to the settlement rule has contributed to day ahead congestion on an intertie, any congestion revenue rights payments resulting from this intertie congestion would be rescinded. This recognizes that a schedule sourcing and sinking in the same balancing area could contribute to congestion, and thus increase the payments for congestion revenue rights that a market participant could hold.

In some cases a review of a complex set of e-tags, such as individual but not linked e-tags, reveals circular scheduling practices intended to circumvent the explicit provisions concerning the circular schedules. Such behavior may be referred to FERC through market monitoring.

POSITIONS OF THE PARTIES

Stakeholder comments reflect differing opinions between segments of the affected parties. The comments are summarized below and a stakeholder matrix is attached for your reference.

Load serving entities support market limits as represented by the proposal. Pacific Gas and Electric supports limiting circular schedules and removing circular scheduling incentives for both single- and multi-SC schedules. Southern California Edison supports the proposal, and requests ongoing monitoring. Northern California Power Agency recommends explicitly prohibiting circular scheduling.

A number of power marketers and generation owners support limits on single-SC schedules, but many of these oppose applying the settlement rule to multi-SC schedules. Brookfield Energy, Calpine, Citigroup, JP Morgan, Morgan Stanley, and Shell Energy support restrictions for single-SC circular schedules, but oppose limits affecting multiple SCs. Western Power Trading Forum sees no need to clarify the existing market rules. Powerex believes the proposed measures are appropriate and necessary for both single- and multi-SC schedules, and further would reject e-tags from single SCs.

MANAGEMENT RECOMMENDATION

Management requests approval of this proposal for a settlement rule, as set forth in this memo, to provide objective criteria for:

1. Identifying circular schedules involving a single scheduling coordinator that are not otherwise allowable in the ISO's market rules, and
2. The treatment in settlements that will result from such schedules.

However, due to lack of demonstrated operational impact of the low level of observed schedules with a source and sink in the same balancing area, involving multiple scheduling coordinators, Management recommends the application of the proposed settlement rule to schedules that source and sink in the same balancing area involving multiple scheduling coordinators be deferred. These revisions and new tariff provisions will clarify what is now an area of uncertainty for market participants, while limiting the growth of scheduling practices that could pose operational issues for the ISO. If approved by FERC, the ISO will target the summer 2012 effective date initially using manual business processes and automation by fall 2013.