



California ISO
Shaping a Renewed Future

**Draft Final Proposal for
Circular Scheduling Market Rule**

**Provided in Support of 2011 Stakeholder Process to Consider
Refinement of ISO Market Requirements**

February 8, 2012

Draft Final Proposal for Circular Scheduling Market Rule

This Draft Final Proposal summarizes stakeholder input in response to the ISO's June 30, 2011, Issue Paper and August 29 Straw Proposal, and presents a revised proposal that seeks to provide greater clarity in the ISO's new market design on a practice known as "circular scheduling" while being responsive to stakeholder input on the Straw Proposal. Following stakeholder discussion and comments on this Draft Final Proposal, the ISO will determine the additional steps that are needed before filing appropriate tariff amendments with the Federal Energy Regulatory Commission (FERC). In general, circular scheduling is the delivery of market import and export schedules by a single party that, possibly in combination with segments in multiple balancing authority areas (BAAs), have the source and sink in the same BAA.¹ This is commonly implemented by submitting a single electronic "tag" (e-tag) for the pair of import and export schedules that lists the same BAA as the source and sink.²

The questions to be considered in formulating the final proposal will include determining the scope of potential tariff revisions that may be necessary to obtain greater clarity of the ISO's market rules. The steps in this stakeholder process to date are as follows:

June 30, 2011	Issue Paper published
July 11, 2011	Stakeholder conference call on Issue Paper
July 18, 2011	Stakeholder comments received on Issue Paper
August 29, 2011	Straw Proposal published
September 6, 2011	Stakeholder conference call on Straw Proposal
September 13, 2011	Stakeholder comments received on Straw Proposal
February 8, 2012	Draft Final Proposal published
February 15, 2012	Stakeholder conference call on Draft Final Proposal
February 22, 2012	Stakeholder comments received on Draft Final Proposal

¹ Several variations of scheduling practices can occur, and the ISO does not limit the principles discussed in this Straw Proposal to only this simple description.

² When combining discussions of e-tags and the ISO's market structure, "schedule" can have multiple meanings: (1) the complete transaction by which energy goes from its source to its sink, as reflected in the e-tag, and (2) the result of a single bid that is submitted in the ISO market, such as an import or export across an intertie. In this document, "schedule" generally refers to the transaction represented by the e-tag, and "import" or "export" is added when the content refers specifically to a portion of the complete transaction.

Additional steps in the stakeholder process will be determined after discussion of this document with stakeholders.

This Draft Final Proposal first presents a background explanation of the characteristics of circular scheduling and an example of circular scheduling that shows the concerns that may require a market rule to be clarified, then summarizes concerns and potential solutions suggested by stakeholder comments, and concludes with the proposal of market rules to address circular schedules and similar schedules. The ISO finds that although the issues addressed by the market rule are associated with circular scheduling, it is not necessary to define what constitutes a “circular” schedule in order to apply the market rule. This proposal defines objective criteria to identify one type of schedule that would be addressed by the market rule. The proposal identifies a settlement rule intended to reduce significantly the financial incentive to engage in this type of scheduling, which is detailed in this document’s final section. Under the proposal, other types of scheduling practices that could be construed as circular scheduling will be addressed through ongoing market monitoring and potential FERC enforcement.

This Draft Final Proposal modifies the Straw Proposal by adding a threshold amount of scheduling activity, below which the ISO’s proposed financial settlement rule would not apply to e-tags involving multiple scheduling coordinators (SCs), but above which schedules involving multiple SCs would be subject to the same provision that applies to single-SC circular schedules. Details are described later in this document. The ISO retains a similar consequence for submission of such schedules that was stated in the Straw Proposal, i.e., settling the import to the ISO at the lower of the locational marginal prices (LMPs) at the scheduling points for the import and export, rather than rejecting e-tags for such schedules. This is because the market optimization process is unable to identify circular schedules, given that the ISO has no information about the use of external transmission at the time when these market scheduling processes run. Rejecting circular schedules after they have been accepted in the market optimization could be disruptive to market participants as a whole because the optimization may have treated the circular schedules as a source of counter-flow for other schedules, and rejecting such schedules could result in curtailments of legitimate schedules during the e-tag confirmation process, to keep from exceeding intertie scheduling limits.

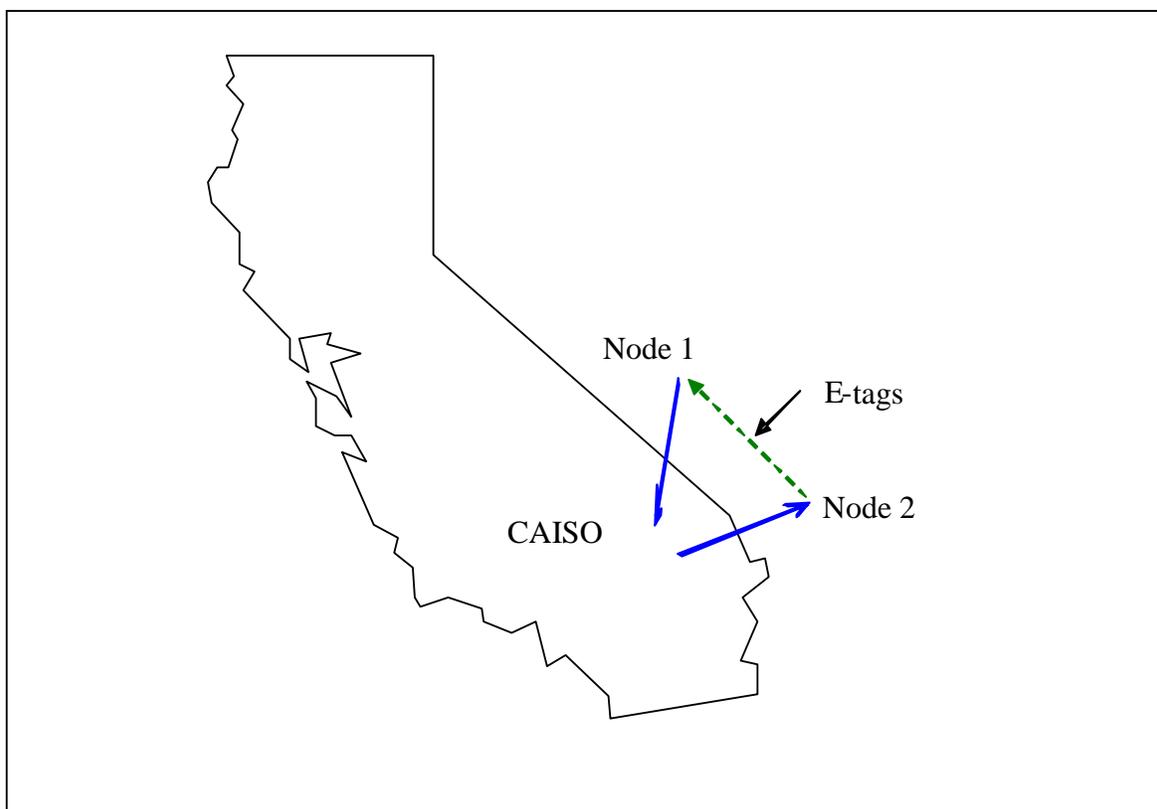
Background

The example of circular scheduling in Figure 1 illustrates one example of the practice that is of concern in this paper. This example consists of a market schedule to import power to the ISO using one intertie and export this power at another intertie, which in this case are an import from Node 1 and then an export to Node 2, which is often in a different BAA than Node 1.³ These could be accomplished through separate

³ The Issue Paper used a similar illustration, but used specific location names. Some stakeholders questioned whether these locations were identified to provide examples of specific market participants or other balancing authorities that have been identified as actually participating in, or being affected by, circular scheduling. The location names were used to provide an illustrative

import and export bids or through a Wheeling Through bid. The actual circular nature of the combined import and export schedules submitted in the ISO markets is not apparent based only on review of the schedules submitted in the ISO markets, and is only apparent if matched with the corresponding e-tags that confirm the market schedules. 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. (Circular e-tags could have a source and sink either inside or outside of the ISO.)

Figure 1: Illustration of Circular Scheduling



Because the power scheduled for export from the ISO would be returned on transmission 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 earning the price difference between the points at which the energy was scheduled to be imported to and exported from the ISO.⁴ If the intertie for Node 2 is congested for

example and were not intended to identify any particular entity that has engaged in, or been impacted by, circular scheduling. To avoid any further confusion, the examples in this Straw Proposal use generic locations.

⁴ A market participant can submit schedules and receive financial settlements only through a scheduling coordinator, which may be the market participant or a separate company that provides services to the market participant. The discussion in this section focuses on the market participant as the entity that conducts market trading.

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. By submitting the import and export as a Wheeling Through schedule, 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 BAAs will be covered.⁵

In its Issue Paper, the ISO described certain operational concerns resulting from circular scheduling. Among the operational issues are:

1. Such schedules have the potential to exacerbate unscheduled flows on the ISO's interties by introducing market schedules across the interties that will not produce any actual flow of energy. In real-time, the ISO can reduce this impact by introducing compensating injections or withdrawals in its market model at intertie scheduling points to reflect the difference between scheduled and actual flows. But this mechanism is not available in the day-ahead market. The day-ahead market results include unit commitment of generation that has start-up times exceeding the time horizon of the real-time market. The incorrect modeling of flows on the ISO's interties, resulting from day-ahead schedules that do not match physical flows, may produce a sub-optimal unit commitment. Although the compensating injections can partially mitigate the unscheduled flow resulting from the circular schedule, the market participant that submits a circular schedule will still be paid for appearing to provide congestion relief in the day-ahead market for a schedule that will not actually reduce any real-time physical flows
2. Circular schedules can also make it more difficult for ISO operators to manually manage congestion if needed in real time since the ISO may not get congestion relief (or a reduction in actual flows) if it has to curtail one or both parts of a circular schedule. If the ISO's operators need to curtail intertie schedules to relieve real-time congestion of energy flows, their actions can be ineffective if the market schedules that would be adjusted do not represent actual flows of energy.⁶

⁵ 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 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.

⁶ This issue arises from imperfections in the "contract path" scheduling method that is commonly used between BAAs, in representing actual physical flows across interties, when applied to the ISO's new market design. As discussed in section 2.1.1.2 of the Business Practice Manual for Managing Full

Before proposing clarifications of the market rules that should apply to circular scheduling in the ISO's new market design, the ISO requested stakeholder input on the Issue Paper to understand any other factors that the ISO should consider, understand stakeholder viewpoints on the tradeoffs among the factors listed above, and receive proposals for resolution of these issues. The ISO considered this input as well as the effectiveness of the potential solutions in formulation of its Straw Proposal, and has now considered the comments on the Straw Proposal as well as results of its own further analysis in formulating this Draft Final Proposal. The following sections describe the potential solutions offered by stakeholders, and then offer the ISO's proposed solution.

Concern and Potential Solutions Offered in Stakeholder Comments

The ISO appreciates the input that a number of stakeholders provided in response to the ISO's Issue Paper and Straw Proposal. Attachment 1 to this Draft Final Proposal briefly summarizes those comments, and responds to questions asked in the stakeholder comments. In addition, several stakeholder comments have offered potential solutions to the issues identified in the Issue Paper. This section highlights these potential solutions, as inputs to the resolution offered in this Draft Final Proposal.⁷

While acknowledging the difficulty of drawing a bright line as to what defines a circular schedule, since bilateral transactions can involve several market participants, Brookfield Energy offers the following suggestions on what could define a circular schedule: (1) the same market participant (or balancing authority) is the buyer and seller at the energy source and sink, and energy is imported from and exported to the same BAA, (2) the transaction could occur on one or more e-tags, and (3) the energy is transacted on AC lines (DC lines being excluded). Shell Energy also offers a definition that a circular schedule is one in which the source and sink of a market participant's schedules are in the same BAA.

Powerex proposes three alternatives to address circular scheduling. Powerex prefers one of these alternatives that would prohibit single-SC CAISO to CAISO

Network Model, the ISO must enforce two separate types of constraints for scheduling and dispatching intertie resources: a flow limit and a scheduling limit. Scheduling limits have been agreed to by the ISO and the neighboring Balancing Authority as the net MW amount that can be scheduled at each scheduling point, in each direction, as if the schedules were physical injections or withdrawals at that point. In contrast, the ISO markets primarily use flow-based congestion management, and in real-time operations, the ISO must manage physical flows across its interties. Enforcement of both the flow-based and the scheduling limits in the day-ahead market is likely to be inaccurate because data on market schedules outside the ISO are unavailable for use in the ISO's market model. If the ISO were to enforce both the flow limits and the scheduling limits on the interties, phantom flow-based congestion may arise on the inter-ties, which in turn would excessively limit intertie schedules and impact prices based on apparent congestion that would not materialize in real-time. The ISO therefore only enforces the scheduling limits for day-ahead congestion management. However, the ISO does enforce flow limits on interties in the real-time when actual flows are observed to approach the flow limits. The issue that arises with circular schedules is that while the individual intertie schedules appear to affect the contract-path based scheduled use of an intertie, the circular schedule provides no actual flow relief.

⁷ The ISO appreciates and has considered the full text of stakeholder comments, which is available at <http://www.aiso.com/informed/Pages/StakeholderProcesses/CircularScheduling.aspx>.

schedules submitted to capture price arbitrage, as the one that will not cause any disruption to the bilateral market that many SCs rely on to meet their purchase and sales requirements. Powerex proposes the following tariff changes and preventative remedy: “Single SC CAISO to CAISO Intertie Schedules Prohibited. A Scheduling Coordinator shall not submit an E-tag or E-tags consistent with the Scheduling Coordinator’s intertie schedules and WECC scheduling criteria where the CAISO is identified as both the source and the sink. The CAISO shall reject the Scheduling Coordinator’s E-tag or E-tags where the CAISO is both the source and sink. E-tag or E-tags submitted to the CAISO where the Scheduling Coordinators for the export and import intertie schedule are different but the source and sink is the CAISO are not prohibited.” Powerex proposes that in order to facilitate objective and consistent enforcement of the tariff requirement, the ISO’s software should automatically deny any tag where (1) both the generation and load BAAs are the ISO; and (2) the SC is the same for both the export and import transmission leg/schedule.

Citigroup generally agrees with Powerex’s comments, but prefers a solution that would prohibit a single SC from facilitating a CAISO to CAISO schedule by submitting a single tag to capture congestion price differences, defined as any instance where the SC is both the exporter and importer on a single tag.

Northern California Power Agency (NCPA) states that unless there is a unique operational need to schedule in a manner that can be interpreted as circular scheduling (e.g., scheduling power to serve load stranded on the system), circular scheduling must be explicitly prohibited in the ISO tariff. FERC has already found circular scheduling to be a form of prohibited gaming behavior. As NCPA notes, FERC’s statements of this finding include the 2003 case of American Electric Power Service Corp. concerning prohibited gaming behavior, FERC’s Market Rule 2 and its subsequent, broader anti-market-manipulation rules. If circular scheduling is observed, it should be reported to FERC for enforcement action. Therefore, NCPA encourages the ISO to make clear in its tariff that the act of circular scheduling is prohibited.

NCPA also proposes that in light of this issue and other recent questionable market participant activities, the ISO should refine its market participation requirements to include mandatory commercial compliance training for all staff involved in transactions and trading activities related to ISO markets. NCPA makes the point that it is very important for market participants’ staff to be fully trained as to what is prohibited market gaming activity. NCPA also believes that due to the recent frequency of issues related to improper market activity, it would be prudent for the ISO to reexamine its minimum participation requirements to ensure some minimum level of commercial compliance training is required of all ISO market participants.

Several comments have supported the ISO’s intent to clarify the market rules concerning circular scheduling, but expressed concerns that the nature of energy trading is such that market participants would have difficulty avoiding situations where schedules become circular, particularly when trading occurs through exchanges or brokers without knowledge of who their counterparties are until the trade is complete. Thus, they have no knowledge of their counterparties’ sources of energy or intended disposition of energy that they sell. A number of comments have supported the prohibition of circular schedules involving a single SC, and recommended that the ISO

should reject such schedules when they are identified.⁸ Stakeholders offered similar comments in response to the Straw Proposal, and stated that multi-SC circular schedules should be reviewed by the ISO's Department of Market Monitoring (DMM) for possible referral to FERC, rather than subject to automatic action by the ISO. Calpine commented, in addition, 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 could be revisited.

Comments of Department of Market Monitoring

DMM submitted comments at the same time as stakeholders. Its comments support the ISO's effort to clarify market rules regarding circular schedules and to establish objective and automated settlement rules that would remove financial incentives for creating circular schedules. DMM believes the ISO's Straw Proposal effectively meets these objectives, without imposing any significant or unfair burdens on bilateral market activity outside of the ISO.

DMM believes addressing circular schedules and other schedules that source and sink in the same BAA through settlement rules would be both effective and equitable by (1) eliminating the profit incentives to purposely engage in such schedules between two interties with locational price differences or that would increase revenues from congestion revenue rights, and (2) reducing the potential for multi-SC schedules that inadvertently source and sink in the same BAA by giving market participants an incentive to determine the source of energy they are purchasing bilaterally if they feel that the impact of the potential settlement warranted this additional effort.

DMM would potentially refer to FERC instances in which monitoring indicated one or more market participants may have sought to circumvent the proposed settlement rules intentionally by submitting multiple e-tags that "chop-up" the path of a series of related transactions so as to avoid application of the proposed settlement rule. This is consistent with current practice of referring suspected violations of FERC's rules prohibiting manipulation and submission of false or misleading information to the ISO. For those circular schedules that would be covered by the settlement rule, DMM views an objective settlement rule as providing a more predictable and fair playing field for all market participants than the status quo.

DMM's full comments are included in Attachment 2.

Analysis of Historical Market Transactions

One difference between DMM's and stakeholders' comments is in how a market rule would apply to multi-SC transactions. Noting Calpine's recommendation 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, the ISO has undertaken a review

⁸ Other comments are summarized in Attachment 1.

of all e-tags that it has received during a recent one-year period, from September 2010 through August 2011.

As stated in the introduction to this Draft Final Proposal, the ISO's goal in this stakeholder process is to clarify the market rules regarding circular scheduling and similar schedules, rather than to address the current financial impact to the market of such schedules. As illustrated earlier in this document, the concerns regarding such schedules are operational, and not necessarily financial. Thus, even though the findings discussed below show that such schedules involving multi-SC transactions do not have a large impact on the market, the ISO interprets this as meaning that a market rule to provide a financial disincentive for multi-SC transactions that are circular in nature would have very limited direct financial impact to the market.

The ISO's analysis has first extracted data for all e-tags with sources and sinks in the same BAA, which comprise about 22,000 hourly e-tags during this 12-month period. The analysis then screened the data to exclude schedules that would not be subject to the proposed settlement rule. Such schedules include:

- Schedules on DC interties: the Pacific DC Intertie between NOB and Sylmar, or the Intermountain DC line between IPP and Adelanto,
- Pseudo-ties into the ISO, having sources at the Sutter or Copper Mountain pseudo-ties, and
- Delivery of energy during "isolated intertie" or "open intertie" conditions.

This step of filtering the data reduced the number of records to 5217 hourly source-to-sink e-tags (a reduction of 76%), of which 764 are single-SC e-tags and 4453 are multiple-SC e-tags. Of these 5217 schedules, 599 have e-tags for zero MW, which would have no impact from the settlement rule proposed in the Straw Proposal, and 1754 schedules have their source and sink at the same intertie, which would also have no impact from the proposed settlement rule unless the export and import occur in different markets (day-ahead vs. HASP).⁹ Excluding these schedules that would not be affected by the settlement rule, 3086 schedules are left for further analysis.¹⁰

Of these 3086 schedules, some observations are notable:

- All have their source and sink in the ISO.
- All but 149 of the schedules have their export leg at Palo Verde (PVWEST).
- 356 of the schedules are single-SC schedules. (That is, 88% are multi-SC schedules.)
- A single SC is the exporting SC in 59% of the 3086 schedules, with 96% of these exports being at PVWEST, and 69% of these PVWEST exports

⁹ Schedules that have their source and sink at the same intertie, in which the export and import occur in different markets (day-ahead vs. HASP), might constitute implicit virtual bids, which are subject to other market rules.

¹⁰ 222 schedules have both zero MW quantities and source/sink at the same intertie.

being re-imported back to the ISO by a single counterparty, with another 24% being with a second counterparty (a total of 93% of its exports at PVWEST that end up returning to sink in the ISO being traded to these two counterparties, out of 16 SCs that imported to the ISO in this set of 3086 schedules). For the two counterparties, this SC was the source of 61% to 67% of their imports among the 3086 schedules.

- Many of the schedules by other SCs have patterns that one would expect from stakeholders' comments that transactions through exchanges and brokers are "blind" to the identity of the counterparty, the source of energy, and ultimate disposition of energy, until a transaction is completed. That is, for many combinations of counterparties, there is no persistent pattern among the importing and exporting SCs. The 1876 e-tags, excluding the exporter and importer discussed in the previous bullet, amount to 5.1 hourly schedules per day, and average 25.8 MW in size. Their total annual profit for this 12-month period was about \$403,000.¹¹
- Among the 3086 schedules, 2823 had 100% of the supporting exported energy scheduled in the day-ahead market, 2953 had 100% of the supporting imported energy scheduled in the day-ahead market, and 2723 had both the exported and imported energy scheduled day-ahead. In 112 schedules, less than 50% of the exported energy was scheduled day-ahead while 50% or more of the imported energy was scheduled day-ahead. In 43 schedules, 50% or more of the exported energy was scheduled day-ahead while less than 50% of the imported energy was scheduled day-ahead. Thus, the prevailing trend is that these schedules have both the export and import legs scheduled prior to the day-ahead market, and it is far less common for only one side of a transaction to have been completed by the time of the day-ahead market.

Given these results, the proposed market rules intend to provide clarity for the market by stating the settlement rule for: 1) any single-SC circular schedules and 2) for multi-SC schedules with a source and sink in the same BAA, in which a persistent pattern of transactions occurs that exceeds a de minimus threshold level. The threshold level can be established based on what would be expected based on a random matching of counterparties through exchanges and brokers. The following section reviews the development of the proposed settlement rule, and incorporates such a threshold into the proposal stated in the Straw Proposal.

¹¹ These totals result from merging e-tag and market schedules. Cases where only one of the legs in an e-tag using CAISO transmission has a market award, one or both legs have market awards for less than the submitted e-tag, or the e-tag shows fewer MW than the market awards, were resolved by reducing the MW on the e-tags to the lowest among the tagged MW and the HASP awards for the import to and export from the CAISO market. The settlement for import and export legs is the DA LMP times the DA MW schedule, plus the HASP LMP times the incremental HASP MW schedule exceeding the DA schedule.

Development of Market Rules

As background, the Issue Paper noted that the ISO tariff governing the ISO's prior market design (section 30.3.5A) had prohibited circular scheduling, which was defined as:

“A Schedule or set of Schedules that creates a closed loop of Energy Schedules between the ISO Controlled Grid and one or more other Control Areas that do not have a source and sink in separate Control Areas, which includes Energy scheduled in a counter direction over a Congested Inter-Zonal Interface through two or more Scheduling Points. A closed loop of Energy Schedules that includes a transmission segment on the Pacific DC Intertie shall not be a Circular Schedule because such a Schedule directly changes power flows on the network and can mitigate Congestion between SP15 and NP15. This definition of a Circular Schedule does not apply to the circumstance in which a Scheduling Coordinator submits a Schedule that is an amalgam of different Market Participants' separate but simultaneously submitted Schedules.”

As noted in the Issue Paper, in the ISO's new market design, the definitions of “Wheeling Out” and “Wheeling Through” in the tariff provide guidance on the permissibility of circular scheduling. Those 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 address service to loads outside the ISO controlled grid, the export schedule in Figure 1 arguably is non-compliant with the tariff definition when the ultimate sink is an import back to the ISO controlled grid, and such a schedule can potentially be seen as submission of false or misleading information to the ISO in violation of FERC's regulations, including 18 C.F.R. § 1c and 18 C.F.R. § 35.41(b).¹²

The Issue Paper also cited market participant feedback that the Wheeling Out and Wheeling Through tariff definitions do not provide sufficient guidance for all situations in the ISO's new market design. One such situation is scheduling to serve stranded loads that are disconnected from the ISO BAA due to an outage adjacent to an

¹² In addition to the ISO tariff provisions addressing circular schedules, FERC has determined that in at least some instances 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 February 2004, FERC stated that circular scheduling constituted market manipulation and would be covered under Market Rule 2. *Cal. Indep. Sys. Operator Corp.*, 106 FERC ¶ 61,179 (2004). Market Rule 2 is the predecessor to 18 C.F.R. § 1c.2, FERC's current rule prohibiting market manipulation.

intertie, and therefore are served by wheeling through an adjacent BAA.¹³ Also, Gila River Power's comment on the Issue Paper pointed out that in the ISO's current market design, few exports are associated with specific generating units. The ISO's tariff filing resulting from this stakeholder process will include clarifications to the definitions of "Wheeling Out" and "Wheeling Through" to address these types of issues of terminology. More clear market rules may help define certain types of e-tags that would be considered "circular" or otherwise subject to these market rules, and consequently potentially subject to specific remedies. These rules would be consistent with FERC's current policies for market monitoring and enforcement, including Order 719.¹⁴

As noted in several stakeholder comments, circular scheduling is an issue whose adverse impacts on reliability need to be addressed, but as recognized in PG&E's comments, "the ISO cannot articulate every possible trading scheme in its tariff." For scheduling practices that go beyond a specifically-defined pattern, the ISO believes that such conduct can be addressed through application of FERC's current policies for market monitoring and enforcement of FERC Rule 1c.2 (18 C.F.R. § 1c.2).¹⁵ Nevertheless a specific class of schedule can be defined based on objectively identifiable behavior, through a market rule applicable to the ISO's current market structure. The ISO finds that although the issues addressed by the market rule are associated with circular scheduling, it is not necessary to define what constitutes a "circular" schedule in order to apply the market rule. Additionally, schedules meeting these objective criteria can be addressed by a remedy that the ISO can reasonably administer for individual instances of non-compliance. The proposal offered in this

¹³ As described in section 8.2.2 of the Business Practice Manual for Market Instruments, an "isolated intertie" condition is similar to an "open intertie" condition in which a transmission path is out-of-service and thus is rated at an Operating Transfer Capability (OTC) of zero in both directions of the intertie or path. In an "isolated intertie" condition, the OTC is non-zero in one direction, but that OTC is reserved for resources registered as stranded load in the ISO's master file. Under an isolated intertie condition, resource bids associated with the intertie are inadmissible during the hours where the condition exists, except resources registered as serving load in the direction of the non-zero OTC that would otherwise be stranded. Schedules to serve stranded ISO load use wheeling through adjacent BAAs, but are not wheeling through the ISO's BAA. Schedules to serve load in an adjacent BAA that would otherwise be stranded by outages in the adjacent BAA fit within the definition of serving load outside the transmission and distribution systems of the ISO's Participating Transmission Owners.

¹⁴ Under Order 719, FERC will now act in an enforcement role in a number of instances that were previously addressed by the ISO tariff concerning rules of conduct, including acting on referrals from ISOs and RTOs. Among the potential remedies for undesired market behavior, an ISO or RTO may treat a tariff violation as a "traffic ticket violation" if: (1) the requirement or prohibited activity is expressly set forth in the tariff, (2) the activity involves objectively identifiable behavior, and (3) the activity does not subject the party to sanctions other than those approved by the Commission and stated in the tariff. The ISO filed a compliance filing on April 20, 2011 (accepted by FERC on July 11, 2011) pursuant to Order 719 and subsequent FERC decisions, which in part updated the ISO's rules of conduct to reflect FERC's policies for market monitoring and enforcement, including removing provisions that would duplicate FERC's own market rules.

¹⁵ The ISO is generally not in a position to clarify on FERC's behalf what conduct FERC may ultimately find to be in violation of Rule 1c.2. Only FERC can provide such clarity.

document consists of the following principles to address that specific class of schedule:¹⁶

- A schedule or set of schedules (as shown on an e-tag) that creates a closed loop of energy schedules between the ISO controlled grid and one or more other BAAs, which do not have a source and sink in separate BAAs, will be subject to a settlement rule except as discussed below.¹⁷
- The ISO does not propose to include a test for whether a schedule is in a counter direction over a congested inter-zonal interface through two or more scheduling points, as the earlier definition did. The settlement rule will only have a financial consequence if the import price is higher than the export price. There would be no apparent incentive for market participants to purposely submit a schedule sourcing and sinking in the same BAA without a price difference between the ties. Similarly to the earlier definition, the test is whether the source and sink are in the same BAA, rather than being within the ISO, because the acceptability of the schedule illustrated in Figure 1 is not affected by whether the source and sink are listed in the e-tag as the ISO, Node 1, or Node 2.
- A closed loop of energy schedules in which a transmission segment on a DC intertie is part of the closed loop will not be considered a circular schedule because such a schedule directly changes power flows on the network and can mitigate congestion within the ISO controlled grid. If the transmission segment on the DC intertie were excluded and the remaining energy schedules still include a closed loop of energy schedules between the ISO controlled grid and one or more BAAs, then the settlement rule will apply.
- Delivery of energy from a pseudo-tie generating unit to the BAA with which the pseudo-tie becomes associated will not be subject to the proposed settlement rule.
- 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, will not be considered a circular schedule. Similarly, wheeling through the ISO controlled grid for the transmission of energy from a source located outside the ISO controlled grid, to a load located outside the transmission and distribution system of a participating transmission owner, will not be subject to the proposed settlement rule.¹⁸

¹⁶ As in most ISO stakeholder processes, drafting of specific tariff language will occur after the completion of the policy formulation stakeholder process.

¹⁷ Several stakeholder comments suggested that a workable test of whether a schedule is circular would examine whether it is a schedule of a single scheduling coordinator, and has its source and sink in the same BAA. As the ISO develops the software implementation of new market rules, the ISO will determine whether there may be advantages to using the Purchasing/ Selling Entity (PSE) shown on e-tags rather than the scheduling coordinator.

¹⁸ An example of delivery of energy during an “isolated intertie” or “open intertie” condition, which would not be subject to the proposed settlement rule, is that when an outage occurs on the Eagle Mountain to Blythe transmission line, SCE exports at other scheduling points and imports back to the ISO to serve its load at Blythe. Examples of wheeling through the ISO controlled grid from a source outside

- The ISO will establish a specific threshold of scheduling activity, below which multi-SC schedules that create a closed loop of energy schedules between the ISO controlled grid and one or more other BAAs, and do not have a source and sink in separate BAAs, will not be subject to the settlement rule.¹⁹ This threshold is intended to identify instances in which an SC has participated in a significant proportion of such scheduling and has transactions with other specific market participants that are disproportionate to its total volume. This exemption recognizes that a certain amount of market trading through exchanges and brokers will, by chance, result in having their sources and sinks in the same BAA, but that such schedules will have a generally random distribution among other market participants who trade through the exchanges and brokers. Recognizing that trading through exchanges and brokers may occasionally result in daily schedules with their source and sink in the same BAA, whereas the ISO's proposed settlement rule focuses on persistent scheduling behavior, the proposed settlement rule uses a rolling multi-day period to determine its applicability. That is, on a particular day, if the MW of such schedules for which an SC is the importer exceeds X% of its total imports, for the current day and most recent prior days, or if the MW of such schedules for which an SC is the exporter exceeds Y% of its total exports (also over the multi-day period), then the settlement rule will apply to these schedules for which the SC is either the importer or exporter on that day. Based on comparing the e-tag data discussed earlier in this document with the same SCs' total import and export activity, the ISO would initially use a 7-day period, and set "X%" as 10% (applicable to imports, which have a greater total volume in the ISO markets) and "Y%" as 30% (applicable to exports).²⁰ The ISO will observe the prevalence of schedules with sources and sinks in the same BAA, compared to the historical period, particularly at times when unscheduled loop flow across interties affects the ISO's operations, and may propose to tighten the threshold if operational or market issues are observed.

If the ISO determines, after the submission of an e-tag, that (1) a schedule or set of schedules creates a closed loop of energy schedules between the ISO controlled grid and one or more other BAAs, and does not have a source and sink in separate BAAs,

the ISO controlled grid, to a load located outside the ISO, which similarly will not be considered a circular schedule, are (1) service by NV Energy from its generation in Nevada through the ISO to serve its load at Laughlin, Nevada, and (2) service by NV Energy or other neighboring balancing authorities to their loads when they experience "isolated intertie" or "open intertie" conditions, comparable to SCE's service to Blythe.

¹⁹ The settlement rule would apply to single-SC schedules whose source and sink are in the same BAA, without application of this threshold.

²⁰ To ensure that the settlement rule applies comparably to large and small SCs, the proposed rule uses a percentage of transactions rather than a specific MW volume. By focusing on a multi-day period rather than daily transactions, the rule recognizes that a schedule inadvertently sourcing and sinking in the same BAA could be a significant fraction of an SC's daily imports or exports. The rule instead targets persistent bilateral trades with counterparties that source and sink in the same BAA. Imports and exports would have different thresholds because schedules sourcing and sinking in the same BAA have equal MWh on their import and export legs, but these volumes would be compared with total MWh volumes that are much greater for imports than for exports.

and (2) in the case of a multi-SC schedule, one or both of the SCs that schedules the import to and export from the ISO has met the stated threshold, the ISO will attempt to remove the incentive for submitting a schedule that sources and sinks in the same BAA by settling the import to the ISO at the lower of the locational marginal prices (LMPs) at the scheduling points for the import and export, for the market in which they are scheduled.²¹ Given that the large majority of the affected schedules have both the export and import legs scheduled in the same market (usually day-ahead), and it is far less common for only one side of a transaction to have been completed by the time of the day-ahead market, there is not a strong rationale for these schedules being permissible simply by being scheduled in different markets (day-ahead vs. HASP). As Calpine suggests, the ISO will also report periodically on the quantity of scheduling activity that falls outside of the established threshold level.

The selection of the specific threshold values of number of days to look back and X% and Y% volumes represents a trade-off between (1) having the settlement rule apply to schedules that are consistent with trading through exchanges or brokers, in which the resulting e-tags have their source and sink in the same BAA but there is no history in previous days of such e-tags, which can be described as “false positives”, versus (2) having the settlement rule miss instances in which a pattern of repeated transactions occurs between the same SCs with the source and sink in the same BAA, but the MWh volume does not reach the rule’s threshold until several days have transpired, which can be described as “false negatives”. The ISO is initially proposing the threshold calculations of 10% of an SC’s total imports or 30% of its total exports over a rolling 7-day period, to minimize the incidence of “false positives”, but will observe any future changes in the incidence of affected schedules and adjust these thresholds if there is an increase in scheduling using sources and sinks in the same BAA.

In formulating the specific threshold values for the settlement rule, the ISO recognizes that some schedules will inadvertently have their source and sink in the same BAA when trades occur through exchanges and brokers, as stakeholders have commented, and would ideally be excluded when applying the settlement rule. Such schedules could be viewed as “false positives” because a market participant could have had no intention of participating in a schedule that forms a closed loop of energy, but could wind up participating in one anyway when it conducts a “blind” transaction through a broker or exchange. The selection of the look-back period will impact the likelihood that such “false positives” will be subject to the settlement rule, and the ISO has sought to minimize the occurrences when these instances trigger the settlement rule. As an example, consider a market participant that routinely buys the same amount as a single transaction every day through an exchange or broker, and on one day it happens to inadvertently participate in a transaction that is potentially subject to the settlement rule.

²¹ The Straw Proposal invited stakeholder input concerning specific alternatives for the settlement of the identified schedules, including applying the LMP at the export scheduling point to both the export and import legs of a circular schedule, applying the lower of the LMPs at the export and import scheduling points to the import leg while not changing the price for the export leg, applying the average of the two LMPs to both the export and import legs, etc. The ISO did not receive any such comments but remains open to stakeholder input concerning these alternatives.

If the look-back period were 3 days, then on that day the cumulative MWh volume that has the same source and sink BAA would be 33% of its total import volume. If the look-back were 2 days, then the cumulative scheduling with the same source and sink BAA on that day would be 50% of its total import volume. Using the proposed threshold in which the settlement rule applies when 10% of a SC's import volume, or 30% of the export volume, over a 7-day period has the same source and sink BAA, during the year of historical data, there are 5 instances of "false positives" in which a single day's activity met the threshold values without previous days having schedules with sources and sinks in the same BAA.²² If the cumulative period were reduced to a 3-day period, while keeping the same percentage threshold values, the number of "false positives" would increase to 14, and if the percentage threshold values were reduced by 50% (i.e., 5% of cumulative import volume, or 15% of cumulative export volume), the number of "false positives" would increase to 20.

In contrast, there are 69 instances in which a SC's imports on a particular day includes schedules whose source and sink have the same BAA (including days with such schedules being as low as 0.01% of the SC's cumulative 7-day import volume), and the settlement rule would apply to 17 of these instances. For exports, the settlement rule would apply to 36 out of 67 instances in which a SC's exports include schedules with the same source and sink BAA. Thus, the proposed threshold values are reasonably effective in identifying the major instances when schedules have had their source and sink in the same BAA, for the one-year historical period of this analysis.

In addition, the ISO recognizes that a schedule sourcing and sinking in the same BAA could contribute to congestion, and thus increase the payments for congestion revenue rights (CRRs) that a market participant could hold, in similar ways as convergence bidding. Therefore, the ISO would incorporate a rule similar to the CRR "claw-back" that has been applicable to convergence bidding: specifically, CRR payments would be withheld if a schedule that is subject to the settlement rule has contributed to congestion on the path for which the market participant holds CRRs.

In some cases a review of a complex set of e-tags, such as individual but not linked e-tags, reveals circular scheduling practices. To address these situations, monitoring will be performed. If such e-tagging practices reveal suspected behavior that

²² In these instances, one SC had no import schedules during the previous six days, and its only import MWh volume on the seventh day had the same source and sink, so its cumulative 7-day volume with the same source and sink is 100% of its total 7-day volume. Another had a smaller import volume six days previously (with its source outside the ISO), followed by no imports for five days, then followed by a day when half of its import volume had the same source and sink, resulting in a cumulative percentage for the 7-day period of 47%. In the third instance, an SC had exports on two days when it had not had export schedules during the previous five months, and 86% of its export combined with its counterparties' import to have the ISO as both source and sink. In the fourth instance, the SC had two days in the 7-day period when it scheduled exports, with only sporadic days during the previous month when it scheduled exports, and return to the ISO as its counterparty's import resulted in a 56% cumulative volume. In the fifth instance, an SC had a single day with an export schedule that was returned to the ISO by its counterparty, during a three-week period when it had no other exports, resulting in a cumulative volume of 100% for the particular 7-day period. In these instances, it does not seem likely that threshold values for the settlement rule could exclude these from being "false positives".

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is being used to circumvent the explicit provisions concerning the circular schedules, such behavior may be referred to FERC.

Attachment 1

Summary of Stakeholder Comments and ISO Responses

The following summary of stakeholder comments and ISO responses combines comments that were submitted following the ISO's Issue Paper and Straw Proposal, because some comments were stated in detail following the Issue Paper and then summarized in less detail following the Straw Proposal. In many aspects, similar substance has been stated in both sets of comments. Some stakeholders submitted comments on the Issue Paper but not the Straw Proposal, so retaining their comments from the Issue Paper provides the most complete statement of parties' positions.

Party	Comment	ISO Response
Brookfield Energy	<p>It will be very difficult to draw a bright line as to what defines a circular schedule as these bilateral transactions can comprise long chains of market participants where counterparties do not have the knowledge of other counterparty's intent for the power. Brookfield offers suggestions on what could define a circular schedule.</p> <p>Market participants are not aware of other participants' sources of energy and plans for use or further trading. These bilateral transactions are usually conducted on Intercontinental Exchange (ICE) and the market participant is blind to the counterparty until the trade is actually executed. Once a trade is executed the market participant knows who the counterparty is and receives the information on the tag showing the path up to that point. For the North interties, the products offered on ICE designate the direction of the energy, for example COB N-S-Off Peak, which minimizes intentional circular scheduling as the market participant knows the direction the power is allowed to flow. However, in the South, the direction of the power is not designated in the product description. Rule changes that more narrowly define a circular schedule may require products to show direction at southern points. To expect a market participant to determine the intent of other counterparties use or plans for further trading of energy would be unduly onerous and negatively impact liquidity on the interties.</p> <p>A SC can submit bids and schedules for many market participants, acting simply as an interface to the ISO, and should not be assumed to have</p>	<p>Brookfield's suggestions for defining circular scheduling are discussed in the body of this proposal, and have informed the ISO's proposed resolution of these issues. The ISO proposes to define a tariff rule for which the ISO can enforce a specific financial settlement, while relying on potential referrals to FERC for more complex market behavior.</p> <p>The ISO's Straw Proposal described its proposed settlement rule as applying to an e-tag (i.e., single e-tag) with certain characteristics, without limitation of applying to single-SC e-tags. This Draft Final Proposal now introduces (and describes) a distinction between single-SC and multiple-SC schedules. The Straw Proposal stated that schedules submitted through multiple e-tags are more complex, and would be addressed through market monitoring rather than the settlement rule.</p> <p>Because the ISO's proposed settlement rule applies to schedules as stated in e-tags,</p>

	<p>detailed knowledge of transactions of participants it represents.</p> <p>Brookfield proposes that the ISO should state how its rules would apply to single-SC vs. multiple-SC e-tag schedules, and to schedules that consist of single vs. multiple e-tags. It also comments that the proposed settlement rule should apply only to schedules within a single market run, not to multiple market timeframes.</p> <p>Brookfield proposes to reject e-tags for circular schedules rather than applying an automatic settlement rule that may benefit one party in a multiple-SC schedule and harm the other.</p>	<p>the transactions are not necessarily related to single market runs. The e-tag for a day-ahead schedule is sometimes not submitted before the HASP market run, and market awards from HASP may be necessary to complete a source-to-sink schedule that has originated in the day-ahead market. Thus, the settlement rules cannot be limited to a single market run.</p> <p>The Straw Proposal described the rationale for using the settlement rule, rather than rejecting e-tags, as minimizing disruptions of bilateral commercial transactions. This Draft Final Proposal elaborates on that rationale.</p>
<p>Calpine</p>	<p>Calpine supports a strong clarification of the prohibition on circular schedules, and limited but decisive action when compelling discovery of abuse is identified. Calpine believes that the proposed settlement rule disproportionately disadvantages legitimate transactions and could result in significant unintended consequences. Applying the settlement rule to multiple PSE transactions will likely penalize innocent and legitimate transactions. Many transactions that occur at hubs or outside CAISO markets are based only on location, quantity and price, and could be characterized as “blind” to the identity of counterparties, and also to both the source of the energy and the intended sink of the energy. Markets have been purposefully designed with this critical but limited information in order to maximize liquidity and to simplify transactions. Such trading is useful and legitimate in that it allows counterparties to shed or accept risk and to hedge positions. Several “blind” transactions could be chained together in a way that inadvertently, but legitimately begins in the CAISO and ends in the CAISO.</p> <p>As an alternative to the Straw Proposal, Calpine proposes to (1) reject circular e-tags from a single PSE, (2) monitor, track and publicly report the volume of transactions that result in circular</p>	<p>Rather than needing a period for monitoring and reporting the affected multi-SC schedules, the ISO has analyzed a one-year period of e-tags from the ISO market, and reported the results in this Draft Final Proposal. This analysis shows that the pattern of many multiple-SC schedules is consistent with what Calpine describes as “blind” transactions through brokers, and some show a consistent pattern that should be avoidable by the affected SCs. Thus, the ISO has refined its proposal to exempt multiple-SC schedules from the proposed settlement rule, up to a threshold.</p>

	<p>schedules rather than immediately applying the settlement rule, and (3) investigate other transactions for referral to FERC. Informing individual PSEs of the ISO's conclusion that they had knowingly or unknowingly participated in a circular schedule would discourage intentional action, inform parties when legitimate transactions resulted in circular schedules, and inform market participants of the need for additional structural disclosure in bilateral markets such as ICE or Broker deals such as identifying the source or sink of transactions. Calpine suggests first clarifying the tariff, then tracking and reporting multi-party circular schedules for approximately one year, after which the issue of implementing a settlement rule can be revisited.</p>	
<p>Citigroup</p>	<p>Citigroup supports tariff revisions that promote increased transparency and liquidity in the market, and generally agrees with the Powerex comments with some additions. If the ISO prohibits all CAISO-to-CAISO schedules regardless of intent or how they develop, all market impacts and conflicts to NERC, WECC or other market standards and rules must be determined and understood. Citigroup prefers a solution that would prohibit a single SC the ability to facilitate a CAISO to CAISO schedule by submitting a single tag to capture ISO congestion price differences, defined by any instance where the SC is both the exporter and importer on a single tag. This would recognize the concerns outlined in the issue paper while allowing the external bilateral markets to continue uninterrupted and without significant consequences.</p> <p>Citigroup is concerned that the rule stated in the Straw Proposal is overly broad in covering transactions involving multiple parties, multiple tags, and multiple market runs. Citigroup also comments that transactions that move power between parts of the CAISO can relieve congestion and should be permitted.</p> <p>Citigroup does not favor a settlement penalty because of uneven impacts when there are multiple counterparties, without one counterparty being able to control what another does with the power, and the impacts would interfere with CRRs. Citigroup also comments that trading partners cannot develop sufficient information</p>	<p>Citibank's suggestions for defining circular scheduling are discussed in the body of this proposal, and have informed the ISO's proposed resolution of these issues. The ISO proposes to define a tariff rule for which the ISO can enforce a specific financial settlement, while relying on potential referrals to FERC for more complex market behavior.</p> <p>This Draft Final Proposal now distinguishes between single-SC and multiple-SC schedules. The ISO's congestion management is based on the location of injections and withdrawals of power, and scheduling via interties between sources and sinks that are both within the ISO has the same impact of congestion management within the ISO as simply scheduling the sources and sinks without the use of interties. If the ISO were able to model the ultimate physical sources and sinks of interchange transactions, the ISO could improve its pricing of individual schedules to match those physical locations. This could</p>

	<p>from past days that trades between SCs may result in sourcing and sinking in the same BAA, and that there are many legitimate reasons why a market participant may have a schedule resulting from multiple markets that have the appearance of a circular schedule.</p>	<p>contribute to enabling the ISO to base its interchange scheduling on physical flows rather than scheduling limits at intertie scheduling points that might not reflect physical sources and sinks. However, the ISO does not currently receive the data that would be necessary to do this, and basing interchange scheduling on physical flows would probably require changes in overall WECC scheduling practices. In the meantime, it is the existing practice of scheduling interchange at boundary scheduling points that creates the opportunity for circular scheduling that this proposal addresses.</p> <p>Because the ISO's proposed settlement rule applies to schedules as stated in e-tags, the transactions are not necessarily related to single market runs. The e-tag for a day-ahead schedule is sometimes not submitted before the HASP market run, and market awards from HASP may be necessary to complete a source-to-sink schedule that has originated in the day-ahead market. Thus, the settlement rules cannot be limited to a single market run.</p> <p>This Draft Final Proposal examines existing e-tag data and concludes that while a number of multiple-SC schedules are consistent with the random pairing of market participants that would occur through brokers, there are also instances where the same SCs are frequently involved in the same transactions.</p>
Deutsche	The answers to several questions would inform	Deutsche Bank's questions

<p>Bank Energy Trading</p>	<p>the overall stakeholder process. Can the same proposed transaction be circular in one market and not in another, e.g., real-time vs. day-ahead? In a situation where three parallel paths of equal impedance run parallel from one location in SP to another in NP, and one path is outside the ISO and not modeled in the FNM, is there a difference in which transaction is deemed circular? How would the difference be represented in the FNM? Has the ISO considered collapsing all interfaces to a single scheduling point as in the IBAA? Does the ISO scheduling software prevent the submission of inappropriate wheeling schedules? Does the ISO tagging checkout process reject inappropriate wheeling schedules? Does the tagging checkout process include a manual component by ISO staff? Has there been any software modification since MRTU that would impact intertie pricing?</p>	<p>address several areas, to which the ISO responds:</p> <ul style="list-style-type: none"> • The ISO's proposed tariff rule depends on information in submitted e-tags rather than schedules in a particular market, and on whether the source and sink are within the same BAA rather than on the structure of the FNM. • The designation of locations on e-tags as "NP" or "SP" are associated with contract paths on interties rather than physical locations of the physical sources and sinks within the ISO. Unless they are associated with specific generating units within the ISO, imports to and exports from the ISO market are supported by the same system-wide dispatch regardless of whether e-tags use "NP" or "SP". Intertie schedules of a single market participant, with both source and sink in the ISO, are a type of circular schedule. • The operational issues that the ISO has identified as reasons for limiting circular scheduling are based on physical flows, which are not relieved by a circular schedule. • The criteria for establishing an IBAA were defined and evaluated during the process for establishing the existing IBAA's, and supporting materials were provided in that stakeholder process and FERC proceeding. • The ISO's market software is NERC compliant, and will be enhanced as needed to support the proposed tariff
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		rule.
<p>Gila River Power</p>	<p>The lack of clear rules in the current tariff leads to uncertainty about what types of transactions are prohibited. In general, concerns from the pre-MRTU period do not fully reflect operations in the post-MRTU environment. The ISO should take a “ground up” approach when defining schedules that should be prohibited, including an assessment of how specific transactions affect power flows and market efficiency. Market rules should prohibit detrimental activities while allowing activities that can reduce cost to serve load. The concern in Figure 1 of the Issue Paper appears not to consider that the interties between ISO and external networks at Moenkopi and Palo Verde are separate nodes with separate prices. If the market participant arranges for transmission from Palo Verde to Moenkopi, it is reasonable to expect that power would flow, particularly if there is congestion at Palo Verde. If the transaction has an impact on LMP’s, it should also impact power flows. Two scenarios illustrate these points.</p> <p>Does the ISO agree with the assumptions and hypothetical outcomes for the two scenarios? How would actual flows of energy be different between the scenarios? Does the ISO consider SP15 and NP15 singular points of receipt/delivery within its nodal market, or does it recognize different interties and external systems as separate points of receipt/delivery? Why do ISO e-tags specify SP15 or NP15 as the source or sink within the nodal market?</p> <p>In addition, the current tariff definitions do not seem to match how the MRTU market is functioning. For example the definition of “Wheeling Out” is that its schedule should consist of energy from a generating unit to serve load outside of the ISO. However, when participants are awarded export bids, the awards are not tied to specific generators. Since the market solves for transmission usage at the same time as the LMP’s, there may be exports awarded just to meet net import limits. These exports are not clearly from a generating unit within the ISO. A similar problem exists for the “Wheeling Through” tariff definition.</p>	<p>The ISO believes this proposal would add to the clarity that Gila River requests.</p> <p>Contrary to Gila River’s assertion, the example illustrated by Figure 1 recognizes that Nodes 1 and 2 are separate nodes with separate prices. In fact, distinctions between these scheduling points that do not reflect physical flows in the network are the basis of the operational issues that require the ISO’s proposed tariff rule.</p> <p>Gila River’s comparison of two scenarios shows a cost reduction that could be achieved through market participants’ increased intertie utilization by scheduling on interties where contract path capacity is available. As the ISO has pointed out in both the Issue Paper and Straw Proposal, a shortcoming in the contract path methodology for interties is that schedules do not match physical flows, in this case resulting in not showing a difference in physical flows when market participants choose different contract paths.</p> <p>“NP15” and “SP15” identify interties that connect to different parts of the CAISO/WECC region, but imports to and exports from both of these locations are supported by the same system-wide dispatch. Simply submitting a set of linked schedules between NP15 and SP15 does not ensure that there will be an impact of physical flows in the ISO controlled grid, and remains a</p>

		<p>circular schedule.</p> <p>The ISO will clarify the definitions of “Wheeling Out” and “Wheeling Through” to clarify terminology such as Gila River identifies.</p>
<p>J.P. Morgan</p>	<p>Absent clearly stated and articulated rules, market participants face uncertainty with respect to the application of the ISO’s rules. The ISO should clearly specify the reliability or market efficiency benefits or need for new tariff rules, and identify if such a rule is necessary to address anomalous or uneconomic market results. The ISO stated on the July conference call that one reason for this effort was market participant inquiries as to whether certain scheduling practices are acceptable. J.P. Morgan appreciates this stakeholder discussion to provide the requested clarity. Once the nature of any ISO concerns in the context of the new market design is provided, J.P. Morgan will be better positioned to provide additional specific feedback.</p> <p>The ISO invited stakeholder comments regarding how bilateral transactions should be treated and what obligations a market participant has when it sells exported energy and knows or suspects that its trading partner will re-import that energy. Such information is not exchanged today, and any ISO rule requiring an exchange of information for bilateral transactions regarding the intended use or delivery of the associated energy would have a stifling effect on the bilateral power market. Moreover, requiring a participant to obtain information regarding larger “daisy chain” transactions is unworkable.</p> <p>The ISO should focus on individual market participant transactions with clear evidence (e-tags) of simultaneously scheduling equal exports and imports. Even then, further examination is warranted. J.P. Morgan supports a settlement rule only if it is clear that the schedule and e-tag pertains to a single market participant, utilizes external transmission, occurs at separate intertie locations, and is the result of simultaneous export-import transactions, but not when multiple parties are involved. Similarly, J.P. Morgan can support a CRR claw-back rule if transparent, clear, objective criteria are applied.</p>	<p>The ISO’s Issue Paper and Straw Proposal both identify the operational issues that lead to restricting the practice of submitting schedules that source and sink in the same BAA: (1) unscheduled flows across the ISO’s interties, in which the actual flows produced by market schedules do not match what is scheduled in the market, and (2) real-time congestion management in which the operators need confidence that reducing market schedules will produce actual flow reductions across the ISO’s interties.</p> <p>In the tariff rule that the ISO proposes to include in its tariff, which would be enforced through financial settlements, the ISO would rely on information from market schedules and e-tags. Cases where circular scheduling market behavior is more complex would rely on monitoring and referrals under procedures established by FERC.</p>

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<p>Northern California Power Agency (NCPA)</p>	<p>Unless there is a unique operational need to schedule in a manner that can be interpreted as circular scheduling (e.g., scheduling power to serve load stranded on the system), circular scheduling must be explicitly prohibited in the ISO tariff. FERC has already found circular scheduling to be a form of prohibited gaming behavior. FERC's statements of this finding include the 2003 case of American Electric Power Service Corp. concerning prohibited gaming behavior, FERC's Market Rule 2 and its subsequent, broader anti-market-manipulation rules.</p> <p>If circular scheduling is observed, it should be reported to FERC for enforcement action. Therefore, the ISO should make clear in its tariff that the act of circular scheduling is prohibited.</p> <p>In light of this issue and other recent questionable market participant activities, the ISO should refine its market participation requirements to include mandatory commercial compliance training for all staff involved in transactions and trading activities related to ISO markets. It is very important for market participants' staff to be fully trained as to what is prohibited market gaming activity. Due to the recent frequency of issues related to improper market activity, it would be prudent for the ISO to reexamine its minimum participation requirements to ensure some minimum level of commercial compliance training is required of all ISO market participants.</p>	<p>The ISO appreciates NCPA's focus on FERC decisions and regulations, and believes its proposal for a tariff rule that would be enforced through financial settlements, combined with market monitoring and referrals to FERC for further enforcement, are consistent with the principles that NCPA cites.</p> <p>The ISO also appreciates NCPA's proposed requirements for mandatory commercial compliance training. Acting on this proposal would be beyond the scope of this stakeholder process; the ISO would be better able to consider this proposal in other forums.</p>
<p>PacifiCorp</p>	<p>A source and sink in the same external BAA may be evidence of circular scheduling (though as the ISO itself identifies in the COB/NOB example there are legitimate reasons for simultaneous imports/exports with a single BAA). However, because there may be other legitimate reasons for simultaneous import/export schedules with a single BAA, the ISO should not presuppose a violation, but rather require further information from the market participant that explains the scheduling practice. In particular, PacifiCorp operates two independent and geographically disparate BAAs in the WECC, PacifiCorp West interfacing with the ISO at northwest interties (COB, NOB, etc.) and PacifiCorp East interfacing with the ISO at southwest interties (Four Corners, Palo Verde, Mead, Mona, etc.) Load and resource balances in the two areas will often lead</p>	<p>The ISO recognizes that PacifiCorp West and PacifiCorp East operate as separate BAAs, and believe that its proposed tariff rule and market monitoring activity will not conflict with that recognition. The ISO also recognizes that there are circumstances in which schedules can legitimately have their source and sink in the same BAA, and has attempted to list these circumstances. Tariff rules should be clear and objective in their applicability, which would preclude subjective</p>

	<p>to different hourly operational requirements, so PacifiCorp West may be a purchaser at the same time that PacifiCorp East is an hourly seller. This leads to simultaneous import and export schedules with the different BAAs. A conclusion that circular scheduling is occurring would be incorrect, when no transaction “closes the loop” between PacifiCorp East and PacifiCorp West.</p>	<p>determinations of whether a violation has occurred. If the ISO’s proposal has omitted listing specific types of allowable schedules with sources and sinks in the same BAA, the ISO invites future comments to identify them.</p>
<p>Pacific Gas & Electric (PG&E)</p>	<p>Although the current tariff generally prohibits circular scheduling behavior which is misleading or fraudulent, a more direct prohibition against such misleading practices may be helpful. PG&E notes that the current tariff generally prohibits behavior which is misleading or fraudulent, including the potentially misleading behavior described in this initiative related to circular scheduling. Specifically, tariff section 37.7 provides that using or employing any device, scheme, or artifice to defraud; making any untrue statement of a material fact or omitting a material fact in order to make statements not misleading; or engaging in any act, practice, or course of business that operates or would operate as a fraud or deceit, are violations or potential violations that shall be referred to FERC for appropriate sanction.</p> <p>Although the ISO cannot articulate every possible trading scheme in its tariff, PG&E recognizes that some specific prohibitions can be helpful in the enforcement against pervasive or recurring misleading behavior. Therefore, PG&E is willing to consider specific tariff language that directly addresses misleading or fraudulent circular scheduling if it is recommended by the ISO and Department of Market Monitoring (DMM) to assist with enforcement against such practices. Using the pre-MRTU tariff language as a starting point, proposed tariff language should strike a balance between prohibiting misleading behavior related to circular scheduling and allowing for appropriate trading practices.</p> <p>PG&E is opposed to Straw Proposal applying the definition of circular scheduling to multiple SC transactions. PG&E asks the CAISO to provide more evidence detailing the frequency in which circular scheduling currently occurs in the market, and an estimate of the harm done to system reliability and economic efficiency. Because circular scheduling is a form of market</p>	<p>This proposal formulates a tariff rule that is consistent with FERC’s current approach to monitoring and enforcement. Note that the ISO’s compliance with FERC Order 719 has removed section 37.7, because it would duplicate provisions of FERC’s own regulations on market monitoring and enforcement, which continue to govern market behavior. In formulating its proposed tariff rule, the ISO has incorporated provisions of its previous prohibition on circular scheduling where appropriate. In more complex situations, the ISO will rely on market monitoring and enforcement through FERC’s regulations.</p> <p>This Draft Final Proposal includes an analysis of scheduling patterns from historical e-tags. However, the reader should keep in mind that the ISO proposes to clarify the market rules and the resulting market treatment of such schedules to increase transparency in the market, rather than because there have been severe economic impacts of circular scheduling. Also, the creation of the ISO’s proposed settlement rule does not reduce the ISO’s ability to refer other behavior to FERC.</p> <p>This Draft Final Proposal adds examples to illustrate the</p>

	<p>manipulation, it appears more appropriate to refer such behavior to FERC, rather than employing complicated market rules. Also, there be more than the identified incentives for circular scheduling, in which case the proposed rules may do little to prevent the behavior.</p> <p>PG&E requests clarification of the exemption for wheeling through the ISO controlled grid from a source located outside the ISO controlled grid, to a load located outside the ISO.</p>	<p>rationale for exempting wheeling through the ISO controlled grid from a source located outside the ISO controlled grid, to a load located outside the ISO.</p>
<p>Powerex</p>	<p>Clear and concise rules provide market participants with greater regulatory certainty in its ISO market transactions and in turn yields market results that do not create unintended consequences for the ISO.</p> <p>Under the MRTU tariff, the definitions of Wheeling Out and Wheeling Through transactions create the requirement that exports and wheeling transactions must sink outside of the ISO BAA. However, today’s market does not prevent these non-compliant wheeling transactions from occurring.</p> <p>Powerex proposes three alternatives to resolve this apparent inconsistency. Powerex prefers Option B as it is the one that will not cause any disruption to the bilateral market that many SCs rely on to meet their purchase and sales requirements.</p> <p>Option A would remove Wheeling Out and Wheeling Through definitions in the tariff. While this would provide greater tariff clarity, it may also lead to increased ISO operational issues, as there would be no restrictions on circular scheduling activity. The ISO can determine whether this is a feasible.</p> <p>Option B would prohibit single-SC CAISO to CAISO schedules submitted to capture price arbitrage. The ISO could adopt the following tariff changes and preventative remedy: <u>“Single SC CAISO to CAISO Intertie Schedules Prohibited.</u> A Scheduling Coordinator shall not submit an E-tag or E-tags consistent with the Scheduling Coordinator’s intertie schedules and WECC scheduling criteria where the CAISO is identified as both the source and the sink. The CAISO shall reject the Scheduling Coordinator’s E-tag or E-tags where the CAISO is both the source and sink. E-tag or E-tags submitted to the CAISO</p>	<p>Powerex’s suggestions for defining circular scheduling are discussed in the body of this straw proposal, and have informed the ISO’s proposed resolution of these issues. The ISO proposes to define a tariff rule for which the ISO can enforce a specific financial settlement, while relying on potential referrals to FERC for more complex market behavior. Inferences of intent by market participants to submit schedules that circumvent market rules can be difficult to establish, whereas the ISO’s proposed settlement rule may be implemented easily and transparently.</p> <p>The suggestion to reject tags has implication to other parties since removing the circular schedule can create an over-scheduled intertie.</p>

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	<p>where the Scheduling Coordinators for the export and import intertie schedule are different but the source and sink is the CAISO are not prohibited.” In order to facilitate objective and consistent enforcement of the tariff requirement, software changes should automatically deny any tag where: (1) the generation and load control areas are the ISO; and (2) the SC is the same for both the export and import transmission leg/schedule.</p> <p>Option C would prohibit all CAISO to CAISO schedules regardless of intent or how they develop. One exemption, like in the pre-MRTU tariff, would not prohibit schedules where the Pacific DC intertie is one of the transmission legs. Powerex believes that Option C will result in a disruption to the historical bilateral trading and contract path scheduling practices in the Southwest. A blanket prohibition would prohibit inadvertent and unintentional source/sink ISO schedules that arise due to the nature of bilateral trading at hubs located outside the ISO BAA that trade bilaterally with no directionality (e.g. Paloverde500, Mead230, Fourcorners345, etc.). In the case of inadvertent source/sink schedules, no party initially intends for energy to be exported and imported back at another intertie. The parties only become aware of the other party’s intention during the scheduling process. This can also happen on the same ISO intertie, and there may also be counterparties between Party A and Party B (i.e., Party A buys/exports from the ISO, sells to Party C, who sells to Party D, who sells to Party B who sells/imports to the ISO).</p> <p>Powerex agrees with the Straw Proposal’s description of what is prohibited, but proposes different review processes and enforcement measures. For single-SC e-tags, Powerex recommends rejection of the e-tags, and referral to FERC for continued submission of circular schedules. Powerex recommends review of multiple-SC e-tags by DMM, which would refer attempts to circumvent market rules to FERC for enforcement, but not refer schedules to FERC if there is no intent to both import and export at the time the trade was entered.</p>	
<p>Southern California Edison (SCE)</p>	<p>Intentionally submitting circular schedules should be expressly prohibited since it does not result in physical flow as portrayed in the schedule, potentially creating artificial congestion, with the</p>	<p>The ISO appreciates SCE’s support for clarifying the rules concerning circular scheduling, and believes this proposal is</p>

	<p>market participant profiting by relieving that false congestion. Additionally, circular schedules have the potential to cause reliability concerns by making it more difficult for the ISO to manage actual power flows. New ISO market rules should explicitly define and identify circular schedules, specific examples should show what types of e-tags and schedules would be considered circular and potentially prohibited.</p> <p>The definitions of “Wheel Out” and “Wheel Through” should not be the primary means to identify intentional circular scheduling. The ISO has relied on the language that a wheel must ultimately serve a load located outside the transmission and distribution system of a participating transmission owner. However, a simultaneous import from a region outside the ISO and an export to a load in that same region could still be considered circular. However, the definition should be sufficiently clear to avoid misrepresenting legitimate import and export transactions as circular.</p> <p>Additional concerns which should be clarified are as follows: In what way can convergence bidding result in circular schedules? Can circular schedules be formed with a combined day-ahead and HASP transaction? How would e-tags be used to confirm a circular schedule, who would be responsible for obtaining e-tag data, and what would be the conditions under which the ISO would request e-tags from the market participant? What evidence, if any, in addition to e-tags showing the ultimate source and sink in the same BAAs will be viewed as indicative of circular scheduling?</p> <p>SCE supports aspects of the CAISO’s proposal that (1) limit the scope of the remedy to only specific, objectively identified scheduling patterns, (2) specify certain cases which would not be considered circular, and (3) refer more complicated circular schedules to DMM for evaluation. However, SCE is concerned that the “traffic ticket” when the e-tag shows a closed loop with a source and sink in the same BAA can still be misrepresented as circular when there is no intention of abuse. The different timing of making trades and tagging transactions makes it impossible to know the ultimate source and sink of the energy at the time of the transaction, and a</p>	<p>consistent with SCE’s comments.</p> <p>To address SCE’s additional concerns, the ISO assumes that convergence bidding would not result in circular schedules, but has considered convergence bidding as part of the context in which these rules are being formulated. Circular schedules could be formed by combining day-ahead and HASP transactions, but these should become apparent when final e-tags are processed. Validation of e-tags, which the ISO receives through its existing market processes, now occurs in the ISO’s CAS software and will be enhanced to do the necessary validation. Market schedules and the resulting e-tags will form adequate evidence for enforcement of the proposed tariff rule. If market monitoring requires additional information, it will be obtained as needed.</p> <p>The refined rule in this Draft Final Proposal recognizes SCE’s concerns about multiple-SC transactions, but intends to prevent abuse when transactions between a set of market participants show a pattern of prohibited schedules.</p>
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	<p>risk of a financial settlement adjustment risks disrupting bilateral transactions and the use of brokers. Legitimate transactions should not be miscategorized as circular and subject to automatic price adjustments.</p>	
<p>Shell Energy North America</p>	<p>The ISO is tasked with managing an open grid with multiple market participants and needs to maintain rules which allow liquidity in markets and which do not impede commercial transactions, while ensuring compliance with the tariff. When a single SC schedules energy on e-tags in which a schedule originates and terminates in the same BAA, this would constitute a circular schedule and should not be scheduled. The language in the tariff prior to MRTU might be appropriately included in the current tariff.</p> <p>In bilateral transactions, sources of energy are not known in advance. It is only after schedules are submitted on e-tags that information becomes available about market participants' positions at scheduling points or details associated with the supply of power. Plans for further trading of energy are not known or shared among market participants. Typically there is a high volume of tags to clear each day and detailed analysis of sources and sinks would be difficult in a daily timeframe. Upon receipt of e-tags after the DA market clears, the ISO may attempt to identify circular schedules, however determining intent in commercial transactions involving multiple market participants would be difficult. Any proposed market rule should ensure that market participants can complete and execute transactions for market liquidity.</p> <p>Awareness of the other market participant's typical market activity, or having somewhat specific knowledge of the other market participant's plans, is generally considered collusion and is prohibited. Generally, market participants are not allowed to share this type of information. If an SC has multiple SCID's, the market participant for the SCID typically directs its scheduling activity independently of the rest of the SC's portfolio.</p> <p>There are commercial reasons for wheel through and wheel out transactions, including specified receipt points for term agreements, and the ISO should use care in implementing any rules which affect wheel transactions. While contract paths</p>	<p>Shell Energy's suggestions for defining circular scheduling are discussed in the body of this proposal, and have informed the ISO's proposed resolution of these issues. The ISO proposes to define a tariff rule for which the ISO can enforce a specific financial settlement, while relying on referrals to FERC for more complex market behavior.</p> <p>Concerning the nature of the ISO's markets as being a flowgate or contract path model, it should be understood that the ISO's market design is founded on managing physical conditions including flows in its full network model. However, in addition to limitations on physical flows, the ISO's interties are subject to scheduling limits resulting from the contract path model that is common in areas of WECC outside the ISO, and that leads to issues of circular scheduling. The ISO established the basis for its flow-based market model when establishing its current market design, but must accommodate the contract path model at its interties.</p> <p>The refined rule in this Draft Final Proposal recognizes Shell Energy's concerns about multiple-SC transactions, but intends to prevent abuse when transactions between a set of market participants show a pattern of prohibited schedules.</p>

	<p>do not always match the actual flows, this is the mechanism for scheduling that has been implemented, with congestion charges as the limiting factor. It appears that the ISO wants both a flowgate model and a contract path model. The ISO must first make a case for this need. The issue of circular scheduling has been heavily litigated and FERC has spent considerable time on this topic. If the ISO feels that this issue needs further attention, we encourage the ISO to define circular scheduling as described above, and ensure that an SC does not schedule and sink in the same BAA.</p> <p>Shell Energy supports Powerex’s proposed tariff language, and comments against applying a market rule limiting multiple-SC schedules since transactions may be conducted over long-term as well as short-term timeframes, among multiple market participants without specific knowledge of counterparties’ other transactions. It comments that when there are multiple market participants on the e-tag, the settlement rule would simply harm the last counterparty. Shell Energy encourages the ISO to enact a settlement rule for single-SC circular schedules, but not for multiple participants.</p>	
<p>Western Power Trading Forum (WPTF)</p>	<p>WPTF would like more and specific information about the nature of the concern with circular scheduling; why this has come to light, any changes in the frequency, what reliability impacts have transpired, etc. For example, with respect to reliability, are schedules are creating reliability challenges, or does the radial model create reliability problems, and to understand any residual concerns given that the CAISO can cut schedules that are creating unmanageable physical flows?</p> <p>FERC has addressed circular schedules and is ultimately responsible for enforcement activities – in particular across multiple BAAs. WPTF is concerned that there may be unintended adverse consequences if the ISO starts “policing” transactions, or tries to develop “one size fits all” rules, especially across BAAs or across SCs. Further, it is important that the ISO does not inhibit liquidity or the ability of market participants to transact.</p> <p>There may be very legitimate reasons for parties to import at one point and export at another. For</p>	<p>The ISO is proposing a tariff rule concerning circular scheduling both to respond to market participant requests for greater clarity and to provide transparency in the ISO’s response to the operational concerns that the Issue Paper and Straw Proposal have identified.</p> <p>The Issue Paper and Straw Proposal recognize FERC’s role in market monitoring and enforcement, as well as the ISO’s ability to create tariff rules to manage its markets and maintain reliability. The proposed tariff rule will enable the ISO to objectively respond to specified market behavior while supporting FERC’s activity.</p> <p>The ISO recognizes that</p>

	<p>example there could be economic spreads due to market conditions. Congestion or durations on CAISO interties incents exporting at one location and importing at another through the use of external transmission. This is a benefit to the CAISO markets and SCs who make use of such transactions accept certain risks by doing so. However these transactions would seem to benefit the market place rather than harm it.</p> <p>In response to the ISO’s Straw Proposal, WPTF adds the CAISO’s SCUC process should identify and reject any circular schedules that create reliability problems rather than using punitive financial charges, or if there are indeed circumstances that the dispatch algorithms will not catch, perhaps a more tailored approach can be identified to deal with such situations. Any rules in the CAISO’s final design must have clear and objective triggering criteria that are transparent to the market place. WPTF believes the only circumstances that may warrant automated action is when a single SC submits an eTag and uses external transmission. Automated actions for other conditions should not be pursued to avoid risk for transactions that have legitimate business bases, and instead, such transactions should continue to be monitored to identify market manipulation.</p>	<p>market trading by multiple market participants can produce efficient market outcomes. However, circular schedules do not create efficiency that competitive trading would not also produce.</p> <p>The SCUC process is unable to identify the affected schedules because the ISO has no information about the use of external transmission during these market scheduling processes. Rejecting these schedules after they have been accepted by the market could be disruptive to the market as a whole because SCUC may have treated the schedules as a source of counter-flow for other schedules, and rejecting such schedules could result in curtailments of legitimate schedules. The ISO recognizes that legitimately-traded multi-SC schedules may occur with their source and sink in the same BAA, and has included allowances for such results in this Draft Final Proposal.</p>
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Attachment 2

Department of Market Monitoring Comments on ISO Straw Proposal for Circular Scheduling Market Rule

September 13, 2011

Summary

The Department of Market Monitoring (DMM) is very supportive of the ISO's effort to clarify market rules regarding circular import/export schedules and to establish settlement rules that would remove financial incentives for creating circular schedules. DMM notes that this initiative was undertaken by the ISO in response to requests from some market participants to clarify market rules regarding circular scheduling and to implement automated means to apply these rules objectively and consistently to all market participants. DMM believes the ISO's draft proposal effectively meets these objectives, without imposing any significant or unfair burdens on bilateral market activity outside of the ISO.

The ISO's straw proposal contains the following elements:

- A settlement rule would address circular schedules that are created through a single circular e-tag. The settlement rule would apply whether the ISO market import and export schedules were scheduled by the same or separate market participants.
- The settlement rule would set the locational marginal prices of the import and export legs of a circular schedule to be the same. In addition, there would be a "claw-back" mechanism for circular schedules that inflated congestion revenue right payments.
- More complex circular scheduling practices, such as in the event circular schedules are created through multiple e-tags to intentionally circumvent the settlement rules, would continue to be addressed through market monitoring and potential referral to FERC as potential violations of FERC regulations regarding accurate information and/or market manipulation.²³

Background

Circular schedules are created when an import and an export are scheduled in the ISO market, and a "circular" e-tag is submitted to implement these schedules.²⁴ The import

²³ An example of multiple e-tags that "chop-up" the path of a circular schedule would be an import from an external balancing authority to the CAISO and a simultaneous export from the ISO to a load in the same external balancing authority.

²⁴ A circular e-tag has both the energy source and sink in the same balancing authority area.

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and the export may be scheduled in the ISO market by the same or separate scheduling coordinators. E-tags are submitted by what the North American Electric Reliability Corporation terms a “purchasing-selling entity.” There may be multiple purchasing-selling entities listed on an e-tag as energy is bought and sold. A purchasing-selling entity submitting a tag is not necessarily the same entity as the scheduling coordinator scheduling an import or export in the ISO market.

The ISO has indicated that circular schedules can be detrimental to market efficiency and system reliability by exacerbating “loop flows” (or the difference between contract schedules and actual flows on different transmission paths) and making it difficult to manage congestion in the hour-ahead and real-time markets.

Comments

DMM believes addressing circular schedules through settlement rules would be both effective and equitable for the following reasons:

- The proposed settlement rules should eliminate the incentives to purposely engage in circular scheduling. Specifically, the rule would eliminate the ability to profit from the locational price differences between two tie points or to use circular schedules to increase revenues from congestion revenue rights.
- The proposed settlement rules would also reduce the potential for inadvertent circular schedules by giving market participants an incentive to determine the source of energy they are purchasing bilaterally if they feel that the impact of the potential settlement warranted this additional effort.

The following table summarizes how the proposed circular scheduling rules would be applied. As the table shows, the proposed settlement rules would apply for all circular schedules created through a single e-tag, whether one or separate scheduling coordinators scheduled the import and the export in the ISO market, and whether one or multiple purchasing-selling entities were listed on an e-tag.

Category	Number of scheduling coordinators (SCs) scheduling import/export in ISO market	Number of purchasing-selling entities (PSSE) on e-tag	Number of e-tags resulting in circular schedule	Method to address
1	1 SC schedules import and export	1 PSSE	1 e-tag	Settlement rules applied
2	1 SC schedules import and export	> 1 PSSE	1 e-tag	Settlement rules applied
3	2 different SCs schedule import and export	1 PSSE	1 e-tag	Settlement rules applied
4	2 different SCs schedule import and export	> 1 PSSE	1 e-tag	Settlement rules applied

5	1 or 2 SCs schedule import and export	1 or more PSSEs	> 1 e-tag	Subject to monitoring and potential referral to FERC
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The table also shows DMM would continue to potentially refer to FERC instances in which monitoring indicated one or more market participants may be seeking to intentionally circumvent the settlement rules by submitting multiple e-tags that “chop-up” the path of a series of related transactions creating a circular schedule. Under this scenario, if monitoring indicated the potential that separate e-tags were being used to disguise the actual source and sink of the transactions being represented by each e-tag, DMM would consider this a potential violation of FERC market rules prohibiting manipulation and submission of false or misleading information to the ISO.²⁵ Since such cases typically require a subjective assessment of intent and other factors, DMM must refer such cases to FERC for such assessment. It should be noted that the potential for referring activity under this category (Category 5 in the table) merely represents a continuation of DMM’s current interpretation of FERC rules prohibiting manipulation and submission of false or misleading information to the ISO. Thus, the ISO’s proposal in no way broadens the behavior that may be referred to FERC under this category.

Meanwhile, DMM notes that circular schedules falling under the other categories (Categories 1 to 4 in the table) are currently subject to the same referral process as potential violation of FERC rules prohibiting manipulation and submission of false or misleading information to the ISO. The ISO’s proposal would essentially replace the current potential for referral to FERC with settlement rules based on completely objective criteria and relatively modest pre-specified financial consequences. DMM believes that on balance this approach provides a more predictable and fair playing field for all market participants than the status quo.

Several market participants have commented that applying the proposed settlement rule to circular schedules involving more than one market participant would unduly interfere with bilateral trading. They make the point that entities do not always know the ultimate source of energy they are purchasing and may unknowingly become subject to the settlement rules. However, DMM notes that:

- Circular schedules, even if not intentionally submitted, still contribute to unscheduled flow, and do not deliver the physical response a particular price at a tie point is designed to reflect. The proposed settlement rule simply aligns the settlement of these circular imports/exports more closely with the actual market impact of these schedules.

²⁵ In addition, DMM would still potentially refer circular schedules to FERC if they were part of some other manipulative scheme, as it would any other market activity. An example of this would be a series of circular import/export schedules used as part of a scheme to manipulate congestion revenue right revenues.

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- Bilateral trading practices could evolve so that market participants know the source of energy they are purchasing (by balancing authority area).²⁶ DMM expects that the impacts of the proposed settlement should typically be relatively small and infrequent (i.e. assuming circular schedules are truly inadvertent). However, if the impacts are greater, DMM believes it is reasonable to assume bilateral trading practices could evolve so that in addition to specifying price, quantity and delivery point, bilateral transactions also include the intended source of the power being traded.²⁷

In sum, DMM believes that the ISO's proposal provides an effective solution that will minimize the incidence of circular scheduling (whether intentional or inadvertent), while providing a more predictable and fair playing field for all participants than the status quo.

²⁶ For example, energy traded at the Southwest ties could also be designated with a direction, rather than just the point of receipt, as it is for the ties with the Northwest. Apparently energy traded at the Northwest ties includes a designation of the direction the energy would flow (i.e. north, south).

²⁷ If the source was unspecified, the buyer would simply need to factor the potential for any price adjustment into their transaction price if they wanted the option of importing the power into the ISO.