Straw Proposal for Circular Scheduling Market Rule

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

August 29, 2011
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This Straw Proposal summarizes stakeholder input in response to the ISO’s June 30, 2011, Issue Paper, and presents a straw proposal that seeks to provide greater clarity in the ISO’s new market design on a practice known as “circular scheduling.” Following stakeholder discussion and comments on this Straw Proposal, the ISO will refine this proposal as needed, while determining 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 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.

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:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 30, 2011</td>
<td>Issue Paper published</td>
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<tr>
<td>July 11, 2011</td>
<td>Stakeholder conference call on Issue Paper</td>
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<tr>
<td>July 18, 2011</td>
<td>Stakeholder comments received on Issue Paper</td>
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<tr>
<td>August 29, 2011</td>
<td>Straw Proposal published</td>
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<tr>
<td>September 6, 2011</td>
<td>Stakeholder conference call on Straw Proposal</td>
</tr>
<tr>
<td>September 13, 2011</td>
<td>Stakeholder comments received on Straw Proposal</td>
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Additional steps in the stakeholder process will be determined after discussion of this document with stakeholders.

This Straw 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 potential solutions suggested by stakeholder comments, and concludes with the initial proposal of market rules to clarify the current tariff’s provisions. This proposal defines objective criteria to identify one type of circular schedule. The proposal additionally identifies a settlement rule intended to reduce significantly the financial incentive to engage in this type of circular scheduling. 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.

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.
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 1.² These could be accomplished through separate 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

² 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 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.
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. If the intertie for Node 2 is congested for imports into the ISO, the export schedule from the ISO would be paid for providing counter-flow in the opposite direction. If there is no congestion for imports on the ISO’s intertie from Node 1, and only nominal costs for the external transmission from Node 2 to Node 1, the market participant would profit even if there is no actual delivery of energy and no physical change in flows. 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.

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

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3 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.

4 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.
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.5

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 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 following sections describe the potential solutions offered by stakeholders, and then offer the ISO’s proposed solution.

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. Attachment 1 to this Straw Proposal briefly summarizes those comments, and responds to questions asked in the stakeholder comments. In addition, several stakeholder comments 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 Straw Proposal.6

While acknowledging the difficulty of drawing a bright line as to what defines a circular schedule, since bilateral transactions can involve several market participants,

5 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 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.

6 The ISO appreciates and has considered the full text of stakeholder comments, which is available at http://www.caiso.com/informed/Pages/StakeholderProcesses/CircularScheduling.aspx.
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 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 scheduling coordinator 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 scheduling coordinator from facilitating a CAISO to CAISO schedule by submitting a single tag to capture congestion price differences, defined as any instance where the scheduling coordinator 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.

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).  

7 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.
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 intertie, and therefore are served by wheeling through an adjacent BAA.\(^8\) 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” and consequently potentially prohibited or subject to other specific remedies. These rules would be consistent with FERC’s current policies for market monitoring and enforcement, including Order 719.\(^9\)

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 circular 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).\(^10\) Nevertheless a specific class of circular schedule can be defined based on objectively identifiable behavior. Additionally, schedules meeting these objective criteria can be addressed by a remedy that the ISO can reasonably administer for individual instances.

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\(^8\) 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.

\(^9\) 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.

\(^10\) 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.
of non-compliance. The straw proposal offered in this document consists of the following principles to address that specific class of circular schedule.\textsuperscript{11} 

- 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 considered a circular schedule and is prohibited.\textsuperscript{12} The ISO understands that, as described in stakeholder comments, circular schedules may be formed inadvertently as market participants trade energy with other market participants, and that actions such as rejecting such schedules may disrupt bilateral commercial transactions. However, it is not apparent that no circular schedules result from trading in which one market participant is aware of trading patterns of another market participant, and the remedy described below, using financial settlements, is intended to minimize the disruption of bilateral commercial transactions while neutralizing financial incentives to create a circular schedule.

- Because patterns of congestion are more complex in the ISO’s new market design than in its original design, 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. Similarly to the earlier definition, the test of being a circular schedule 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 that includes a transmission segment on a DC intertie 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.

- Delivery of energy from a pseudo-tie generating unit to the BAA with which the pseudo-tie becomes associated will not be considered a circular schedule.

- 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 considered a circular schedule.

\textsuperscript{11} As in most ISO stakeholder processes, drafting of specific tariff language will occur after the completion of the policy formulation stakeholder process.

\textsuperscript{12} 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, there may be advantages to using the Purchasing/ Selling Entity (PSE) shown on e-tags rather than the scheduling coordinator. However, e-tag validation using either the scheduling coordinator or PSE may not be necessary.
If the ISO determines that a schedule or set of schedules has these characteristics, after the submission of its e-tag, the result will be that the ISO will remove the incentive for circular scheduling by settling the import to and export from the ISO at the same locational price. Subject to further analysis, the ISO anticipates setting this price at the lower of the locational marginal prices (LMPs) at the scheduling points for the import and export. Alternatives for the settlement of the identified circular schedules include 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 invites stakeholder input concerning these alternatives.

In addition, the ISO recognizes that a circular schedule 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: in particular, CRR payments would be withheld if a circular schedule 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 is being used to circumvent the explicit prohibition of the circular schedules, such behavior may be referred to FERC.
# Attachment 1

## Summary of Stakeholder Comments and ISO Responses

<table>
<thead>
<tr>
<th>Party</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Brookfield Energy</td>
<td>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. 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. A Scheduling Coordinator can submit bids and schedules for many market participants, acting simply as an interface to the ISO, and should not be assumed to have detailed knowledge of transactions of participants it represents. Brookfield’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.</td>
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<tr>
<td>Citibank</td>
<td>Citigroup 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 Citibank’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</td>
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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.

tariff rule for which the ISO can enforce a specific financial settlement, while relying on potential referrals to FERC for more complex market behavior.

| Deutsche Bank Energy Trading | The answers to several questions would inform 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? |
| Deutsche Bank’s questions address several areas, to which the ISO responds: |
| • 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 |
| Gila River Power | 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. 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? 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. | The ISO believes this straw proposal would add to the clarity that Gila River requests. 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. 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. “NP15” and “SP15” identify interties that connect to |
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.

J.P. Morgan

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.

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.

The ISO should focus on individual market participant transactions with clear evidence (e-

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 circular schedule.

The ISO will clarify the definitions of “Wheeling Out” and “Wheeling Through” to clarify terminology such as Gila River identifies.

The ISO’s Issue Paper and Straw Proposal both identify the operational issues that lead to restricting the practice of circular scheduling as (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.

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.
| Northern California Power Agency (NCPA) | 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.

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.

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. |

| PacifiCorp | 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 |

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 |

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. 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.
with the ISO at southwest interties (Four Corners, Palo Verde, Mead, Mona, etc.). Load and resource balances in the two areas will often lead 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.

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<tr>
<th>Pacific Gas &amp; Electric (PG&amp;E)</th>
<th>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&amp;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. Although the ISO cannot articulate every possible trading scheme in its tariff, PG&amp;E recognizes that some specific prohibitions can be helpful in the enforcement against pervasive or recurring misleading behavior. Therefore, PG&amp;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.</th>
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<td>This Straw 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.</td>
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| Powerex | 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. Powerex’s suggestions for defining circular scheduling are discussed in the body of this straw proposal, and have informed the ISO’s proposed |
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.

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.

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.

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: “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.” 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 scheduling coordinator is the same for both the export and import transmission leg/schedule.

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 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.
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).

| Southern California Edison (SCE) | 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 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. 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. 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 |
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| The ISO appreciates SCE’s support for clarifying the rules concerning circular scheduling, and believes this Straw Proposal is consistent with SCE’s comments. 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 market design in which new circular scheduling rules must be 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, |
| **Shell Energy North America** | 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.

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.

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.

There are commercial reasons for wheel through and wheel out transactions, including specified |
| | Shell Energy’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 referrals to FERC for more complex market behavior.

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. |
receipt points for term agreements, and the ISO should use care in implementing any rules which affect wheel transactions. While contract paths 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.

| Western Power Trading Forum (WPTF) | 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? 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.

There may be very legitimate reasons for parties to import at one point and export at another. For 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. |
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<td>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. 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. The ISO recognizes that 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.</td>
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