



Market Settlement Timeline

Issue Paper and Straw Proposal

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Prepared by: Heather Kelley
James Lynn

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1 Executive Summary

The CAISO proposes to change its market settlement timeline to reduce market participant financial exposure by producing initial settlement statements that will approximate more the final settlement, allow sufficient time for the CAISO and market participants to resolve disputes, and reduce CAISO and market participant administrative costs associated with low-value settlement re-calculation efforts.

The CAISO's current settlement timeline is compressed, which places potentially avoidable burdens on the CAISO and market participants. The compressed timeline causes the CAISO to publish initial statements of lower financial quality and to sometimes delay the publication of its settlement statements. These inefficiencies impact market participants because they must bear a financial burden of varying magnitude for many business days.

The CAISO and market participants also devote a large level of effort to correct data, re-calculate, process, and validate relatively small financial adjustments associated with optional re-calculations long after the settlement trade date has passed.

To resolve these issues, the CAISO proposes to calculate and publish two settlement statements within 60 business days after a trade date and re-align the due dates for settlement quality meter data.

- The CAISO proposes to consume available settlement quality meter data four business days after a trade date and publish the initial statement seven business days after a trade date, allowing the CAISO to incorporate price corrections and quality meter data into its initial settlement statement.
- The CAISO proposes to accept final meter data 52 business days after a trade date and publish the last required settlement statement 60 business days after a trade date.

Under certain defined circumstances, the CAISO proposes to re-calculate and publish three settlement statements between 60 business days after a trade date and 24 months after a trade date, reducing the normal settlement life cycle from 36 months to 24 months.

- The CAISO proposes to optionally re-calculate and publish settlement statements 12 months after a trade date, 21 months after a trade date, and 24 months after a trade date.

Finally, the CAISO proposes to only consider settlement disputes for disputed revenues or charges greater than \$100.00 unless the dispute is an approved place-holder dispute.

2 Objective and Scope

The objectives of this initiative are to:

- Reduce market participant financial exposure by producing initial settlement statements that will closely approximate the final settlement.
- Allow sufficient time for the CAISO and market participants to resolve disputes
- Reduce CAISO and market participant administrative costs associated with low-value settlement re-calculation efforts.

This initiative does not propose to change the timelines established for invoicing charges from the Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC), Western Electricity Coordinating Council (WECC), and reliability coordinator services, or charges for transferred frequency response, generator interconnection process (GIP) forfeited deposit, and reliability coordinator services including hosted advance network application (HANA) services because these items are invoiced separately and are not subject to re-calculation.

3 Energy Imbalance Market Governing Body

This initiative proposes to change the schedule for issuing settlement statements and invoices. Staff believes that the EIM Governing Body has an advisory role with respect to the proposed changes.

The rules that govern decisional classification were amended in March 2019 when the Board adopted changes to the Charter for EIM Governance and the Guidance Document. An initiative proposing to change rules of the real-time market now falls within the primary authority of the EIM Governing Body either if the proposed new rule is EIM-specific in the sense that it applies uniquely or differently in the balancing authority areas of EIM Entities, as opposed to a generally applicable rule, or for proposed market rules that are generally applicable, if “an issue that is specific to the EIM balancing authority areas is the primary driver for the proposed change.” Neither test is satisfied here. The proposed tariff changes are generally applicable to the entire real-time market, as well as all market time frames, and thus are not EIM-specific. Moreover, EIM issues are not the primary driver for the proposed changes, but rather a desire to improve the settlement process for benefit of all participants by making settlement statements more accurate, thus reducing market participant’s financial exposure and allowing sufficient time to resolve disputes before the next statement, among other benefits.

This EIM classification reflects the current state of this initiative and may change as the stakeholder process moves ahead. If any stakeholder disagrees with this proposed classification, please include in your written comments a justification of which classification is more appropriate.

4 Issues

4.1 The current settlement timeline is too compressed causing various inefficiencies

The CAISO's current settlement timeline is compressed, which places a potentially avoidable burden on the CAISO and market participants. The compressed timeline causes the CAISO to publish initial statements of lower financial quality and to sometimes delay the publication its settlement statements. These inefficiencies impact market participants because they bear the burden of large variations in their financial exposure over many business days and they must manually trigger the processing and validation of delayed statements under an even more compressed timeline.

The CAISO calculates and publishes three settlement statements per trade day within the first 55 business days after each trade day. Under this timeline, the CAISO publishes an initial statement before it has received settlement quality meter data and before it has incorporated all market price corrections. Lacking this information, these statements have a lower financial quality. The CAISO then publishes a subsequent settlement statement 9 business days later, incorporating these and other data corrections which are required to produce a quality statement. The CAISO publishes this subsequent settlement statement, widely recognized as CAISO's first quality settlement statement, 12 business days after the settlement trade date. Market participants can submit settlement disputes to the CAISO up to 14 business days later. The CAISO then has a relatively limited amount of time, 30 business days, to process all disputes and produce a more accurate last required settlement statement 55 business days after the trade date.

Figure 1 below displays these milestones on a timeline.

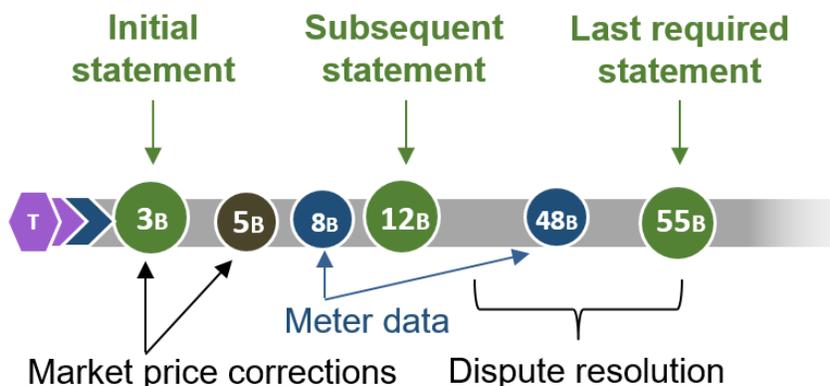


Figure 1: Current required settlement timeline key milestones

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The compressed timeline often causes the CAISO to delay the publication of settlement statements which impacts market participants' ability to process and validate each statement in a timely manner. The initial statement's three business day turn-around is extremely tight and the CAISO often faces having to make a choice between publishing the statement on time and waiting for data corrections that are necessary to avoid significant inaccuracies. Many data corrections cannot be completed within the three business days following the settlement trade date. For this reason, the CAISO delayed initial settlement statement publication 8% of the time in 2018. When this delay occurs, market participants become more pressed for time to process and validate their statements.

The compressed timeline means that the CAISO cannot incorporate all market price corrections, high market impact data issue corrections, market software defect corrections, scheduling coordinator submitted meter data, market participant submitted estimated load values, and intertie meter data. As a result, the initial statement is often of lower financial quality because it does not closely approximate final settlement.

A lower financial quality initial statement places a financial burden on market participants. First, market participants may need to float a financial obligation for at least nine business days because, as they have reported to CAISO staff, they do not trust the initial statement enough to settle with their customers. Market participants settle with the CAISO three business days after the settlement trade date, but may wait for the higher quality subsequent statement nine business days later to settle with their customers. This causes market participants to bear the financial settlement burden for at least nine business days until it bills its customers. Second, market participants must bear varying magnitudes of financial burden. There is a large financial swing between the initial and subsequent settlement statements because of the corrections that occur between the two statements. If the CAISO can produce a higher quality initial statement before 12 business days (i.e., the current timeline for a statement that reasonably approximates final settlement), market participants may not have to float a financial obligation of varying magnitudes for so long.

4.2 CAISO and market participants devote a large effort to reconcile small financial adjustments

The CAISO and market participants devote a large level of effort to correct data, re-calculate, process, and validate relatively small financial adjustments associated with optional re-calculations long after the settlement trade date has passed. Every time the CAISO re-calculates settlement statements, all market participants consume, process, validate, and store the results.

The CAISO calculates and publishes four optional settlement statements per trade day from 55 business days to three years after each trade day. Under this timeline, the

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CAISO publishes its first optional settlement statement nine months after each trade day, followed by three more at 18 months, 33 months, and 36 months. Market participants can submit disputes to the new settlement statements 22 business days after the CAISO publishes each statement.

Figure 2 below displays these milestones on a timeline.

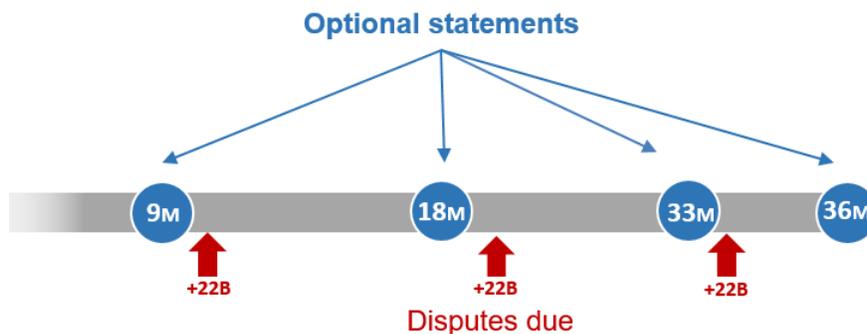


Figure 2: Current optional settlement timeline key milestones

The CAISO finds that it must consistently re-calculate settlement statements three times over a three year period for each settlement trade date. When the CAISO first implemented the current settlement timeline it anticipated that it would rarely re-calculate settlement statements beyond 55 business days after the settlement trade date.¹ However, due to the need to revise transmission revenue requirements, correct market software defects, and resolve complex disputes, the CAISO must consistently execute otherwise optional re-calculations.

Table 1 below, observe that the CAISO publishes most optional re-calculations.

| Statement | Number of trade dates | Statements published | Percent published |
|-----------|-----------------------|----------------------|-------------------|
| T+9M | 2455 | 2450 | 99.8% |
| T+18M | 2181 | 2071 | 95.0% |
| T+33/35M | 1732 | 1656 | 95.6% |
| T+36M | 1637 | 369 | 22.5% |

Table 1: Optional Statement Publication Frequency October 2011 through March 2019

The CAISO and market participants incur a potentially high cost for a relatively low amount of re-settled revenues beyond 55 days after the settlement trade date. While there are valid reasons for these re-calculations, re-settlements beyond 55 days after

¹ The CAISO had expected to trigger optional T+9M, T+18M, T+33M, and T+36M statements on rare occasion where a regulatory decision may require retroactive resettlement of a trade date, software defect is detected and corrected, or a long-standing policy issue requires resettlement. However, they have become regular occurrences.

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the settlement trade date only impact 2% of market transactions. The optional re-calculations expose the CAISO to produce up to 52 settlement statements per week for market participants to consume, process, validate, and store.

Table 2 below, observe that only 2% of market transactions are re-settled on all the optional statements combined.

| Month | Required Settlement Statements | | | | | Optional Settlement Statements | | | | |
|------------|--------------------------------|-----------|-----------|-----------|--------------------|--------------------------------|-----------|----------------|-----------|--------------------|
| | Initial (%) | T+12B (%) | T+55B (%) | Total (%) | Total (\$ Million) | T+9M (%) | T+18M (%) | T+33 / 35M (%) | Total (%) | Total (\$ Million) |
| March 2014 | 92.28% | 5.10% | 2.05% | 99.42% | \$732.18 | 0.30% | 0.22% | 0.06% | 0.58% | \$4.24 |
| March 2015 | 85.94% | 7.27% | 2.85% | 96.07% | \$438.68 | 2.29% | 0.72% | 0.92% | 3.93% | \$17.95 |
| March 2016 | 83.15% | 10.01% | 5.01% | 98.17% | \$325.80 | 0.53% | 1.29% | - | 1.83% | \$6.06 |
| March 2017 | 86.02% | 9.15% | 3.05% | 98.22% | \$361.39 | 1.70% | 0.08% | - | 1.78% | \$6.54 |
| March 2018 | 87.31% | 9.40% | 3.28% | 100.00% | \$561.79 | - | - | - | - | - |

Table 2: Market revenues to re-settle associated with each re-calculation

Market participants often submit low-dollar settlement disputes to the CAISO that result in both parties devoting a disproportionate level of effort to process and validate. Twenty three percent (23%) of all settlement disputes are for less than \$100. The CAISO expends significant effort and resources to process these disputes on the same timeline that it processes other major disputes. It then re-calculates settlement statements, which all market participants must then consume, process, validate, and store.

Table 3 below, observe that 23% of all settlement disputes are for less than \$100 and almost a third of those are later found to be invalid.

| Year | Number of disputes | Number of disputes less than or equal to \$100 | Percent of disputes less than or equal to \$100 | Percent of disputes less than or equal to \$100 that were <u>approved</u> | Percent of disputes less than or equal to \$100 that were <u>not approved</u> |
|------|--------------------|--|---|---|---|
| 2014 | 2065 | 519 | 25% | 76% | 24% |
| 2015 | 2300 | 637 | 28% | 72% | 28% |
| 2016 | 1909 | 369 | 19% | 72% | 28% |
| 2017 | 2012 | 432 | 21% | 75% | 25% |
| 2018 | 1056 | 167 | 16% | 62% | 38% |
| 2019 | 425 | 88 | 21% | 55% | 45% |
| | 9767 | 2212 | 23% | 72% | 28% |

Table 3: Low-value disputes January 2014 through March 2019

5 Proposal

5.1 Introduction

In order to increase settlement statement quality and timeliness, reduce market participant financial exposure, and reduce CAISO and market participant administrative costs associated with low-value settlement re-calculation efforts, the CAISO proposes the following changes to be implemented in spring 2020:

- In **Section 5.3.1**, the CAISO proposes to re-align, consolidate, and extend its required settlement timeline.
- In **Section 5.3.2**, the CAISO proposes to re-align and shorten its optional settlement timeline.
- In **Section 5.3.3**, the CAISO proposes to limit settlement disputes that the CAISO will consider based on the magnitude of the disputed revenues or charges.

5.2 Background

This section summarizes the CAISO's current settlement timelines.

In October 2011, FERC issued Order 741 which required ISOs and RTOs to “establish billing periods of no more than seven days and settlement periods of no more than seven days after issuance of bills.” In response to FERC Order 741 and in conjunction with *Settlement Process Timeline Change* initiative, the CASIO developed and implemented the current settlement process timeline which is comprised of a **required** initial settlement statement, two **required** re-calculation statements, and four **optional** recalculation statements. The CAISO calculates and publishes the initial settlement statement three business days after each trade day. It calculates and publishes the two mandatory re-calculation statements twelve business days and fifty-five business days after each trade day, respectively. It calculates and publishes the four optional re-calculation statements nine months, eighteen months, thirty-three/thirty-five months, and thirty-six after each trade day, respectively.

The CAISO intended the initial settlement statement would financially clear the large portion of the financial obligations of market participants as soon as possible based upon market awards and estimated meter data. It intended the two required subsequent re-calculation statements to incrementally improve the quality of the financial obligation settlement based on more accurate settlement quality meter data, after-the-fact intertie schedules, after-the-fact corrections, and dispute resolutions. It intended the fourth optional re-calculation statements to adjust market participants' financial obligations to reflect settlement adjustment based on complex software defect

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resolutions, participant dispute resolutions identified on prior recalculation statements, good faith negotiations, and FERC mandated adjustments.

Figure 3 below displays all of these milestones on a timeline.

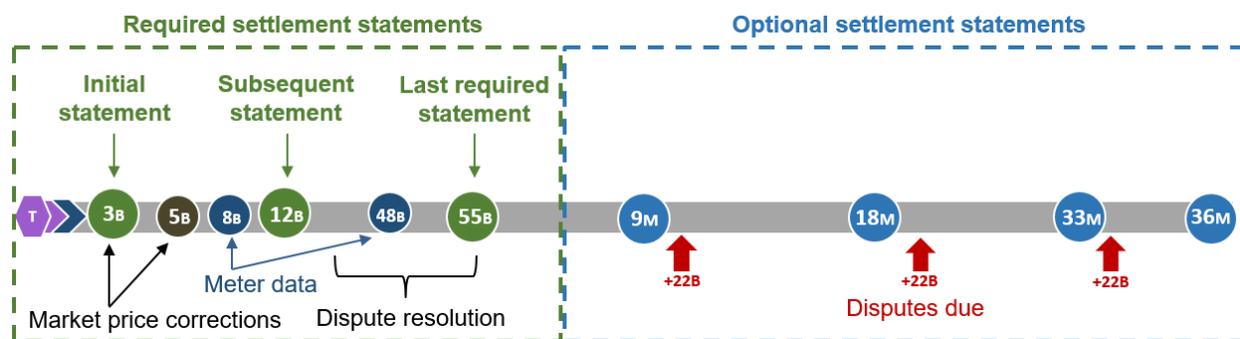


Figure 3: Current required and optional settlement statement timeline

5.3 Proposals

5.3.1 Proposal to re-align, consolidate, and extend the required settlement timeline within 60 business days after a trade date

The CAISO proposes to calculate and publish two settlement statements within 60 business days after a trade date and re-align the due dates for settlement quality meter data. The CAISO intends these changes to increase initial and subsequent settlement statement quality and timeliness within its required settlement timeline.

The CAISO proposes to consume available settlement quality meter data four business days after a trade date and publish the initial statement seven business days after a trade date, allowing the CAISO to incorporate price corrections and quality meter data into its initial settlement statement. Market participants can submit disputes related to the initial statement up to 14 business days later.

The CAISO proposes to accept final meter data 52 business days after a trade date and publish the last required settlement statement 60 business days after a trade date. The re-alignment of the initial and last required settlement statements will allow the CAISO 10 more business days to resolve complex disputes and improve the accuracy of the last required statement. Market participants can submit disputes related to the last required statement up to 22 business days later.

Figure 4 below displays the proposed milestones on a timeline.

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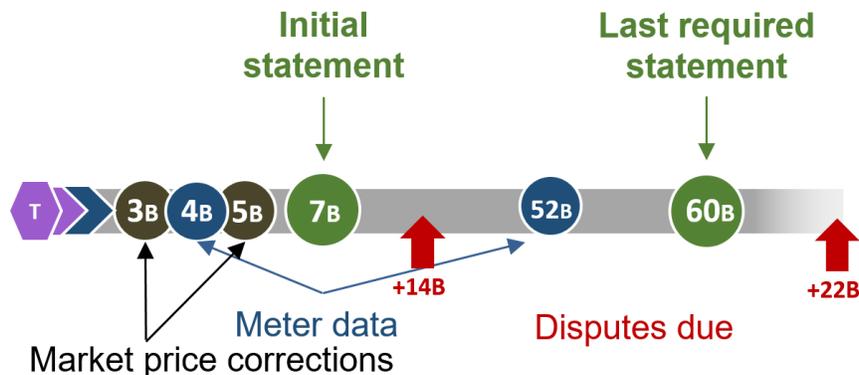


Figure 4: Proposed required settlement timeline key milestones

The CAISO would improve the quality of initial statements published at seven business days by using polled meter data for generation within the CAISO balancing authority area. CAISO staff anticipates that most Energy Imbalance Market participants will submit meter data for both generation and load for the first statement, because they currently submit this data within eight business days. In addition, the CAISO could incorporate any meter data submitted by scheduling coordinators, including intertie schedule quantities, if available. The CAISO will continue to use the meter estimation process for resources where polled or submitted meter data is not available for inclusion on the initial statement. The meter estimation process cannot reflect differences that were observed in real-time because it only reflects scheduled quantities. However, the proposal does provide participants the opportunity to increase the accuracy of their initial statement by allowing them to submit meter data within four days after the trade date.

Allowing a seven day window, rather than the current three day window, would also allow the CAISO to activate calculation of unaccounted for energy, real-time imbalance energy offset adjustments, allocation of real-time market bid cost uplift adjustments, and metered sub-system deviations. The extension also (a) allows the CAISO sufficient time to include market price corrections and polled meter data, (b) allows the CAISO sufficient time to mitigate large market impacts due to market disruptions without creating publication delays, and (c) provides participants the opportunity to submit quality meter and intertie data for inclusion on the initial statement. The gains in accuracy by inclusion of polled meter data, scheduling coordinator submitted data, market transaction and price corrections, and un-accounted-for energy assessment should allow the CAISO to more quickly produce settlement statements that closely approximate final settlements, thus reducing financial swings between the initial and final settlement statements.

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The CAISO proposes to clarify tariff provisions the provisions for flexibility in publishing settlement statements and weekly invoices in the event the CAISO encounters a processing issue. Consistent with the current practice, invoices will be considered timely if published by 5:00 a.m. Thursdays. For weekly invoices published after 5:00 a.m. on Thursdays, the invoice due dates will be adjusted to be 4 business days from that invoice date.

5.3.2 Proposal to re-align and shorten the optional settlement timeline beyond 60 business days after a trade date

The CAISO proposes to have the option to calculate and publish three settlement statements between 60 business days after a trade date and 24 months after a trade date, reducing the normal settlement life cycle from 36 months to 24 months. The CAISO intends these changes to reduce CAISO and market participant administrative efforts associated with low-value settlement re-calculations.

The CAISO proposes to have the option to re-calculate and publish settlement statements 12 months after a trade date, 21 months after a trade date, and 24 months after a trade date. Like today, market participants can submit disputes related to the subsequent statements up to 22 business days later. However, the CAISO proposes to not allow market participants to dispute the 24 month settlement statement and therefore all market participants can reasonably expect to close their financial books at that time. Any adjustments after the 24 month statement must be directed by the CAISO Board of Governors or ordered by the Federal Energy Regulatory Commission.

Figure 5 below displays the proposed milestones on a timeline.

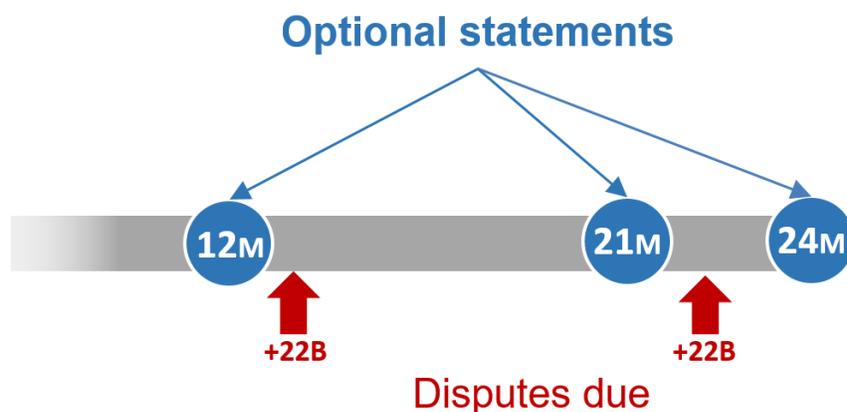


Figure 5: Proposed optional settlement timeline key milestones

The CAISO will trigger optional re-calculations using the same criteria it uses today: settlement adjustments based on complex software defect resolutions, participant

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dispute resolutions identified on prior recalculation statements, good faith negotiations, and FERC mandated adjustments.

5.3.3 Proposal to limit settlement disputes that the CAISO will consider

The CAISO proposes to only consider settlement disputes for disputed revenues or charges greater than \$100.00 unless the dispute is an approved place-holder dispute. The CAISO intends this change to reduce CAISO and market participant administrative efforts associated with low-value settlement re-calculations.

Market Participants should not submit disputes less than \$100. In addition, if during the CAISO's dispute determination, it finds that the actual dispute value is less than \$100.00, the CAISO will deny the dispute.

Since 2014, 23% of all settlement disputes are for less than \$100.00 and almost a third of those are later found to be invalid. Both the CAISO and market participants spend considerable effort to perform analysis, submit, and validate settlement statements. The CAISO believes it is reasonable for it and market participants to focus efforts on disputes that have higher magnitude impacts on the market as a whole.

6 Stakeholder engagement

The schedule for stakeholder engagement is provided below. The CAISO will present its proposal to the Energy Imbalance Market Governing Body at their October 30, 2019 meeting and to the Board of Governors' at their November 13-14, 2019 meeting.

| Date | Event |
|-------------------------|---|
| June 11, 2019 | Publish issue paper and straw proposal |
| June 13, 2019 | Stakeholder conference call on issue paper and straw proposal |
| June 27, 2019 | Stakeholder comments due |
| July - August 2019 | Publish revised straw proposal |
| August - September 2019 | Publish draft final proposal |
| October 30, 2019 | Energy Imbalance Market Governing Body meeting |
| November 13-14, 2019 | Board of Governors meeting |

Stakeholders should attend the stakeholder conference call on June 13, 2019 and provide written comments to initiativecomments@caiso.com by June 27, 2019.