



# **Market Settlement Timeline**

Draft Final Proposal

September 20, 2019

Prepared by: Heather Kelley  
James Lynn

**Table of Contents**

|       |  |    |
|-------|--|----|
| 1     | Executive Summary .....  | 3  |
| 2     | Stakeholder Comments .....   | 3  |
| 3     | Objective and Scope.....   | 5  |
| 4     | Stakeholder engagement.....  | 6  |
| 4.1   | Energy Imbalance Market Governing Body .....   | 6  |
| 4.2   | Schedule .....   | 6  |
| 5     | Issues .....   | 7  |
| 5.1   | The current settlement timeline is too compressed causing various inefficiencies .....   | 7  |
| 5.2   | CAISO and market participants devote a large effort to reconcile small financial adjustments.....                              | 9  |
| 6     | Proposal11   |    |
| 6.1   | Introduction .....   | 11 |
| 6.2   | Background.....  | 11 |
| 6.3   | Proposals .....  | 12 |
| 6.3.1 | Proposal to re-align, consolidate, and extend the required settlement timeline within 70 business days after a trade date..... | 12 |
| 6.3.2 | Proposal to re-align and shorten the optional settlement timeline beyond 70 business days after a trade date .....             | 17 |
| 6.3.3 | Proposal to add flexibility in publishing statements and invoices.....   | 19 |
|       | Appendix A .....   | 20 |

## **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 more closely approximate the final settlement, and allow sufficient time for the CAISO and market participants to resolve disputes.

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 70 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 seven business days after a trade date and publish the initial statement nine 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 70 business days after a trade date.

Under certain defined circumstances, the CAISO proposes to re-calculate and publish three settlement statements between 70 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 11 months after a trade date, 21 months after a trade date, and 24 months after a trade date.

## **2 Stakeholder Comments and Changes to this Proposal**

The ISO appreciated stakeholder comments in response to the *Market Settlement Timeline* revised straw proposal.

**Market Settlements Timeline**  
***Draft Final Proposal***

Arizona Public Service, Bonneville Power Administration, Northern California Power Agency , and Portland General Electric all expressed concern there was too large of a gap in time between the T+70B statement and the T+12M statement. The CAISO agrees to modify the settlement timeline and to move the first optional statement form T+12M to T+11M. This will shorten the timeline between the required and optional statements, but still leave time for a quarterly settlement release.

Arizona Public Service requested additional clarification on optional versus required statements and clarifications on the charge code release cycle. The CAISO has provided these clarifications.

Southern California Edison commented that there were more than 7 days in the billing period in the sample payment calendar. In the sample payment calendar, the CAISO omitted the columns for the publishing of the weekly invoice. These columns have been included on the new sample payment calendar published with the Draft Final Proposal and will provide clarity to the invoicing timeline.

Sacramento Municipal Utility District is concerned if the CAISO has the flexibility to publish invoices after midnight, the CAISO would begin to consistently publishing after midnight, rather than adhering to the established schedule. The CAISO added additional language to the proposal to address these concerns.

Northern California Power Agency suggested the CAISO consider a change in the calculation of Wheeling Access Charge. This topic is out of scope for this initiative. The CAISO suggests NCPA leverage the CAISO policy initiative catalog submission form to add this topic to the CAISO policy roadmap.

Northern California Power Agency and Arizona Public Service requested the CAISO consider the level of effort for implementation for this initiative. The CAISO realizes this initiative will cause system and process changes for market participants. CAISO will discuss implementation timelines for this initiative through the Release Planning meetings and gather feedback through that process.

Northern California Power Agency and Powerex requested the CAISO consider the development of an application programming interface (API) for the settlement payment calendar. The CAISO understands having an API for the payment calendar would enhance usability for our customers. CAISO is currently in the process of evaluating the need to replace the internal CAISO settlement system. An API for the payment calendar will be considered during the scoping of that initiative, and that initiative will be communicated through the Release Planning process.

Idaho Power Company, Pacific Gas and Electric, Powerex, Seattle City Light, and Southern California Edison all requested additional information on the impact of this proposal on estimated aggregate liability evaluation and financial security requirements. The CAISO shares our participants concerns regarding the impact on new settlement

**Market Settlements Timeline**  
***Draft Final Proposal***

timeline on the CAISO financial security requirements. In Section 6.1.1.1, the CAISO has provided the results of the analysis requested.

ACES Power, Arizona Public Services, Bonneville Power Administration, Idaho Power Company, Northern California Power Agency, Pacific Gas and Electric, Portland General Electric, Puget Sound Energy, Seattle City Light, San Diego Gas and Electric, and Southern California Edison all pressed the CAISO to remove dispute threshold portion of the proposal. In recognition of their concerns, the CAISO modified the proposal to remove the dispute threshold at this time.

The CAISO made the following changes to address stakeholder comments:

- In **Section 6.3.1**, the CAISO provided additional information on CAISO compliance with FERC Order 741.
- In **Section 6.3.1.1**, the CAISO provided information on the impact this initiative has on estimated aggregate liability.
- In **Section 6.3.2**, the CAISO outlined changes to the timing of the optional recalculation statements.
- In **Section 6.3.2**, the CAISO provided additional clarification on optional versus required statements and the charge code release cycle.
- In **Section 6.3.2**, the CAISO removed the proposal from earlier papers to limit settlement disputes of revenue or charges greater than \$100.

### **3 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.
- Extend flexibility in publishing settlement statements and weekly invoices.

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.

## 4 Stakeholder engagement

### 4.1 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.

### 4.2 Schedule

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                                      |
| August 15, 2019 | Publish revised straw proposal                                |
| August 22, 2019 | Stakeholder conference call on revised straw proposal         |

**Market Settlements Timeline**  
***Draft Final Proposal***

|                      |  |
|----------------------|--|
| September 6, 2019    | Stakeholder comments due                       |
| September 23, 2019   | Publish draft final proposal                   |
| September 30, 2019   | Stakeholder conference call                    |
| October 10, 2019     | Stakeholder comments due                       |
| October 30, 2019     | Energy Imbalance Market Governing Body meeting |
| November 13-14, 2019 | Board of Governors meeting                     |

Stakeholders are encouraged to attend the stakeholder conference call on September 26, 2019 and provide written comments on the draft final proposal and call discussion to [initiativecomments@caiso.com](mailto:initiativecomments@caiso.com) by October 10, 2019.

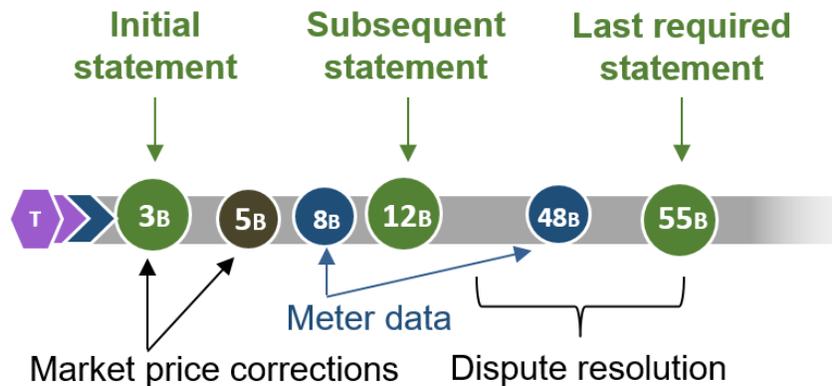
## **5 Issues**

### **5.1 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**

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

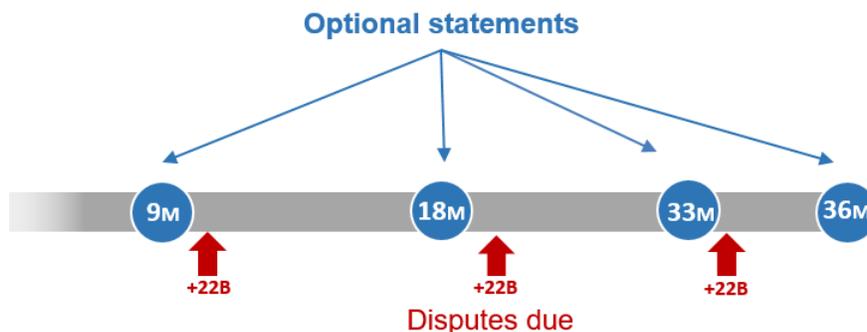
between the two statements. If the CAISO can produce a higher quality initial statement before 12 business days (i.e., the current timeline for a statement that reasonably approximates final settlement), market participants may not have to float a financial obligation of varying magnitudes for so long.

## **5.2 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 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

**Market Settlements Timeline**  
**Draft Final Proposal**

date.<sup>1</sup> 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 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. Market Participants spend effort to submit these disputes, and in turn, the CAISO expends effort and resources to process these disputes on the same timeline that it processes

<sup>1</sup> 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.

**Market Settlements Timeline**  
**Draft Final Proposal**

other major disputes. The CAISO 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**

## 6 Proposal

### 6.1 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 Fall 2020:

- In **Section 6.3.1**, the CAISO proposes to re-align, consolidate, and extend its required settlement timeline.
- In **Section 6.3.1.1**, the CAISO proposes to re-align and shorten its optional settlement timeline.
- **In Section 6.3.3**, the CAISO proposes to flexibility in publishing settlement statements and weekly invoices.

### 6.2 Background

This section summarizes the CAISO’s current settlement timelines.

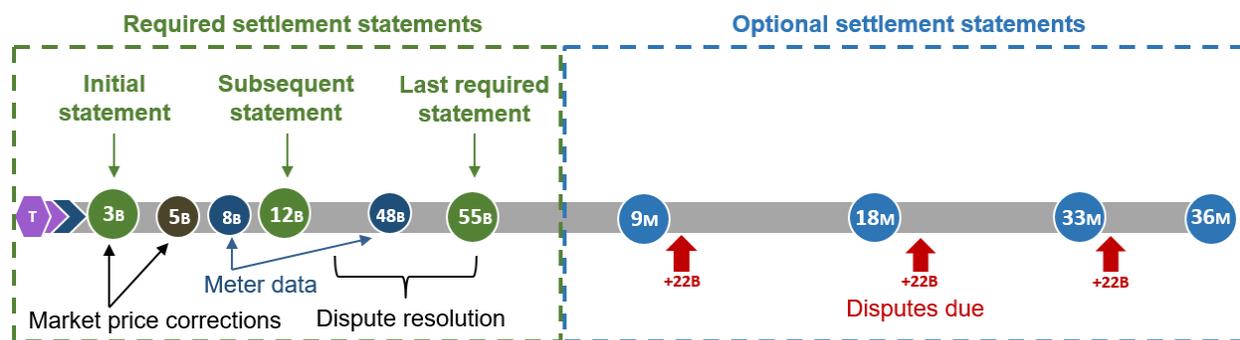
In its *Settlement Process Timeline Change* initiative, the CAISO developed and implemented the current settlement process timeline which is comprised of a **required** initial settlement statement, two **required** re-calculation statements, and four **optional** recalculation statements. The CAISO calculates and publishes the initial settlement

**Market Settlements Timeline**  
**Draft Final Proposal**

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 four optional re-calculation statements to post only if necessary to adjust market participants' financial obligations as a result of a settlement adjustment based on complex software defect resolutions, participant dispute resolutions identified on prior recalculation statements, good faith negotiations, and FERC mandated adjustments. There is no dollar threshold to trigger an optional statement.

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



**Figure 3: Current required and optional settlement statement timeline**

## 6.3 Proposals

### 6.3.1 Proposal to re-align, consolidate, and extend the required settlement timeline within 70 business days after a trade date

The CAISO proposes to calculate and publish two settlement statements within 70 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.

## Market Settlements Timeline *Draft Final Proposal*

The CAISO proposes to consume available settlement quality meter data including non-PTO wheeling data at 10:00 am seven business days after a trade date and publish the initial statement nine business days after a trade date, allowing the CAISO to incorporate price corrections, non-PTO wheeling data, and quality meter data into its initial settlement statement. Market participants can submit disputes related to the initial statement up to 22 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 70 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.



**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 inertie schedule quantities, if available. The CAISO will continue to use the existing meter estimation methodology 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 by 10:00 am Pacific Time seven days after the trade date.

**Market Settlements Timeline**  
***Draft Final Proposal***

Allowing a nine 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 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.

The initial and T+70B statements are fully disputable. Scheduling coordinators have the opportunity to review the statement and submit disputes for any identified discrepancy or error within 22 business days.

The CAISO intends to maintain publication of weekly invoices each Wednesday with payments due 4 business day later on the following Tuesday, which FERC has found is in compliance with FERC Order 741.<sup>2</sup> Order 741 requires the billing and settlement periods must be seven days or less. A careful reading of FERC Order 741 indicates the billing period is the number of days that are settled per invoice (how many days saved up before the issuance invoices). For the CAISO, this is seven and this will remain seven. The settlement period is the number of days a participant has to submit payment for invoices after they are received. For the CAISO, this is seven and this will remain seven.

Weekly billing for the initial statement shall include the trading days Friday through Thursday published in the previous week. The T+70B recalculation statement shall include the trading days as the T+9B initial statements. Billing periods for recalculation statements subsequent to the T+70B statement shall remain monthly based upon publication see Appendix A for sample payment calendar.

**6.3.1.1 Impact of timeline change on estimated aggregate liability**

The CAISO is not proposing any alteration to the core credit principles, which require each market participant to maintain an aggregate credit limit (ACL) plus financial security amount (FSA) in excess of its estimated aggregate liability (EAL). In a review of overall CAISO credit policies and procedures, the CAISO has concluded the proposed settlement timeline requires the CAISO to align the EAL calculation with the T+9B settlement statement.

---

<sup>2</sup> FERC Order No. 741, Credit Reforms in Organized Wholesale Electric Markets (2010). The relevant regulation is 18 CFR 35.47(b).

**Market Settlements Timeline**  
***Draft Final Proposal***

The EAL is an estimate of unpaid obligations, for a specified time period, from CAISO settlement charges. The EAL is composed of sixteen unique liability components. The EAL components consist of unpaid invoice amount, published statements not yet invoiced, estimated liabilities, extrapolated EAL (obligations), Congestion Revenue Right (CRR) portfolio values, CRR bid liability, CRR auction awards, virtual bid, virtual Day Ahead, virtual Real Time, past due invoices, FERC annual charges, future wheeling access charge, current wheeling access charge, and estimated aggregate liability adjustments.<sup>3</sup>

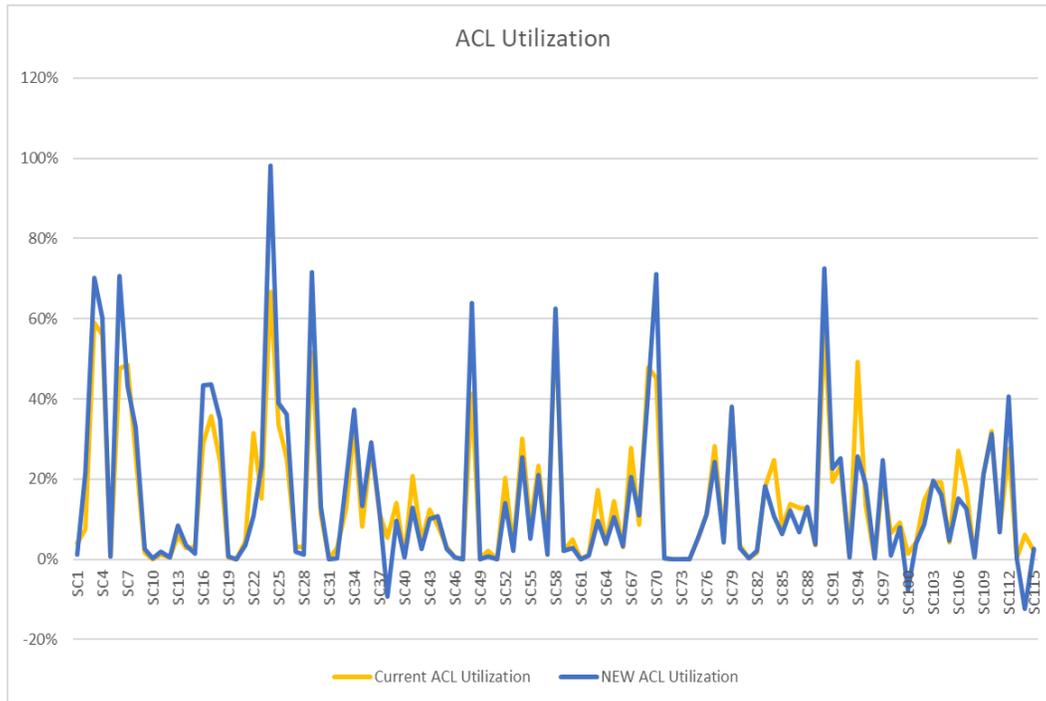
The CAISO determined the extrapolated EAL component is impacted by this initiative, specifically, the extrapolation period. Currently, the extrapolation period is ten business days, which covers the three business day lag between the Trade Date and the date settlement statements are first published, two business days for market participants to post additional collateral when called, plus an additional buffer period when a collateral call occurs over holiday seasons. The monthly extrapolation period ranges from nine to 42 days. Based upon this initiative, both the daily and monthly extrapolation periods require minor modifications. Preliminary review indicates the T+9B statement will require the CAISO to modify the daily extrapolation period from ten days to between 13 and 19 days. The month end extrapolation period will adjust from nine to 42 days, to 17 to 50 days.

The CAISO simulated the calculation of the new extrapolation component using the modified daily and monthly extrapolation periods. In order to be conservative, the CAISO used 19 days for the daily extrapolation period and 50 days for the monthly extrapolation period. The simulation was performed on a three month sample period for 2018, as well as two randomly selected, high temperature dates in 2018 and 2019. The analysis returned some surprising and mixed results. For some participants, the extrapolation component increased the total EAL. For others, the extrapolation decreased the total EAL. The CAISO then compared each market participants' average EAL calculations against the maximum ACL of the same given periods to determine the variance in ACL utilization.

---

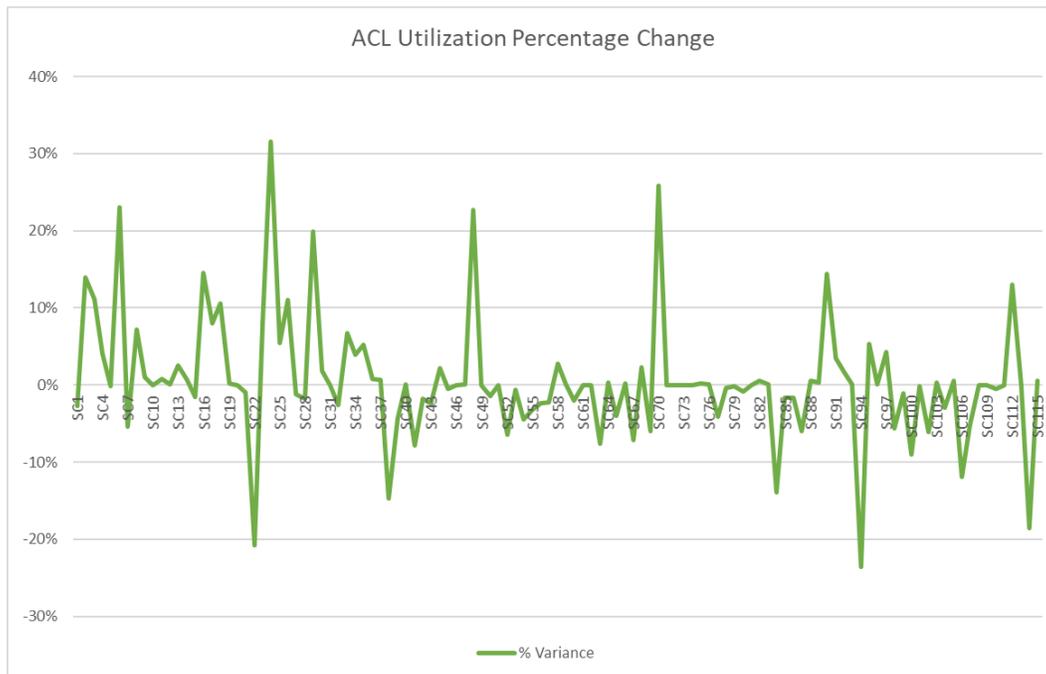
<sup>3</sup> For detailed description of each EAL component, reference the [BPM Credit Management and Market Clearing](#).

**Figure 3** average EAL calculations against the maximum ACL of the same period.



**Figure 5: New EAL % against the Current ACL %**

**Figure 36** below shows the maximum increase in ACL utilization was 32%, while the maximum decrease in ACL Utilization was 24%.



**Figure 6: % ACL Utilization Change**

The results show that the modified extrapolation period will influence market participants differently. The market participants extrapolated EAL will be more influenced by daily activity than by monthly activities. The results also indicate the new settlement timeline did not result in an abnormal increase in ACL. Market participants are encouraged to evaluate their EAL versus ACL variance using a similar methodology as outlined above.

### ***6.3.2 Proposal to re-align and shorten the optional settlement timeline beyond 70 business days after a trade date***

The CAISO proposes to have the option to calculate and publish three settlement statements between 70 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 publish the first optional statement at T+11M to accommodate dispute resolution for a T+70B recalculation statement through quarterly charge code release cycle. A pre-defined quarterly settlements release schedule was established as requested by stakeholders for charge code configuration modifications. The quarterly cycle provides certainty and sufficient lead time for stakeholder to modify their respective shadow settlement systems and business processes. Average lead time for a charge code configuration release is approximately 145 days which includes changes for business practice manuals, configuration design, testing, and market simulation if necessary.

Figure 7 below illustrates the timeline for T+70B dispute resolution via quarterly charge code configuration release.

**T+70B Dispute Resolution via Quarterly Release Timeline for Trade Date 1/1/19**

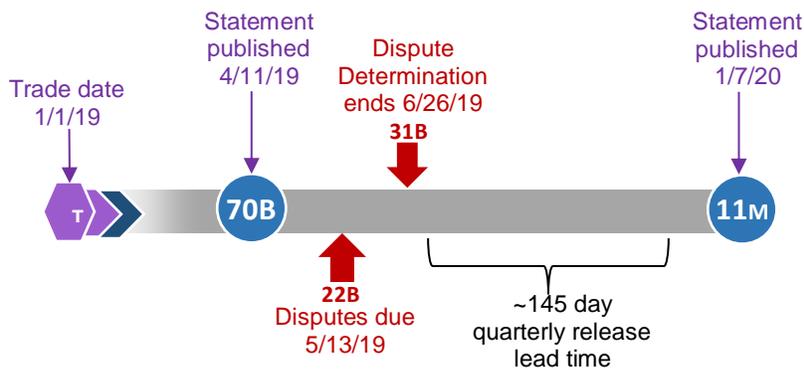


Figure 7: Dispute resolution quarterly release lead time

Subsequent to the T+11M optional statement, the CAISO proposes to have the option to re-calculate and publish settlement statements 21 months after a trade date, and 24 months after a trade date. Like today, market participants have the opportunity to review incremental changes for T+11M, T+21M, and unscheduled recalculation statements and submit a dispute for any identified discrepancy or error within 22 business days. However, the T+24M is not subject to dispute unless directed by CAISO Governing Board or FERC. Therefore all market participants can reasonably expect to close their financial books at that time. Any settlement adjustments after the 24 month statement must be directed by the CAISO Board of Governors or ordered by the Federal Energy Regulatory Commission.

Figure 8 below displays the proposed milestones on a timeline.

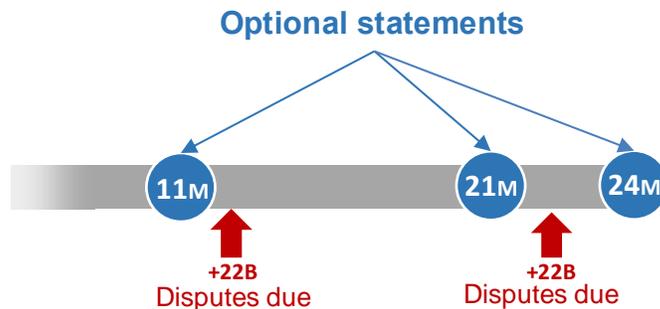


Figure 8: Proposed optional settlement timeline key milestones

**Market Settlements Timeline**  
***Draft Final Proposal***

The CAISO will trigger optional re-calculations using the same criteria it uses today: settlement adjustments based on complex software defect resolutions, participant dispute resolutions identified on prior recalculation statements, good faith negotiations, and FERC mandated adjustments. Additionally, The CAISO intends to maintain both the unscheduled reissue and unscheduled directed recalculation settlements statements with no revisions to the established criteria for unscheduled statements. Timing for the unscheduled directed statements is proposed as between the T+70B and T+11M statement and between T+11M and T+21M.

***6.3.3 Proposal to add flexibility in publishing statements and invoices***

The CAISO proposes to clarify tariff 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. This provision will only be enacted as a result of a processing issue. Although these issues are expected to rarely occur, the CAISO proposes to timely inform market participants of any expected delay.

## Appendix A

The table below reflects current and proposed settlement timelines.

| Current Settlement Timelines   |             | Proposed Settlement Timelines  |           |
|--|-------------|--|-----------|
| Publish Initial Statement  | 3B          | Receive End-Use Meter Data, Manual Submission of non-PTO Wheeling Data | 6B        |
|  |             | Publish Initial Statement  | 9B        |
|  |             | End of T+22B SC Review Period/Dispute Submittal Deadline               | 31B       |
| Publish Weekly Invoice   | Wednesday   | Publish Weekly Invoice   | Wednesday |
| Weekly Invoice Due Date  | 4B          | Weekly Invoice Due Date  | 4B        |
| Receive End-Use Meter Data, Manual Submission of non-PTO Wheeling Data | 8B          | n/a  | n/a       |
| Publish 1st Recalculation Statement                                    | 12B         |  |           |
| End of T+14B SC Review Period/Dispute Submittal Deadline               | 26B         |  |           |
| Receive End-Use Meter Data (to include non-PTO load)                   | 48B         | Receive End-Use Meter Data (to include non-PTO load)                   | 52B       |
| Publish 2nd Recalculation Statement                                    | 55B         | Publish 1st Recalculation Statement                                    | 70B       |
| End of T+22B SC Review Period/Dispute Submittal Deadline               | 77B         | End of T+22B SC Review Period/Dispute Submittal Deadline               | 92B       |
| Meter Data Resubmittal Deadline (to include non-PTO load) T+8M         | 172B - 168B | Receive End-Use Meter Data (to include non-PTO load) T+10M             | 214B -    |
| Publish 3rd Recalculation Statement T+9M                               | 194B        | Publish 2nd Recalculation Statement T+11M                              | 234B      |
| End of T+22B SC Review Period/Dispute Submittal Deadline               | 216B        | End of T+22B SC Review Period/Dispute Submittal Deadline               | 256B      |
| Publish 4th Recalculation Statement T+18M                              | 383B        | Publish 3rd Recalculation Statement T+21M                              | 446B      |
| End of T+22B SC Review Period/Dispute Submittal Deadline               | 405B        | End of T+22B SC Review Period/Dispute Submittal Deadline               | 468B      |
| Publish 5th Recalculation Statement T+33M                              | 693B        | n/a  | n/a       |
| End of T+22B SC Review Period/Dispute Submittal Deadline               | 715B        |  |           |
| Publish 6th Recalculation Statement T+36M                              | 759B        | Publish 4th Recalculation Statement T+24M                              | 512B      |
| Unscheduled Directed Reissue Statement                                 | 9M - 18M    | Unscheduled Directed Reissue Statement                                 | 70B - 11M |
| Unscheduled Directed Reissue Statement                                 | 18M - 33M   | Unscheduled Directed Reissue Statement                                 | 11M - 21M |