179 FERC ¶ 61,151
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Richard Glick, Chairman;
James P. Danly, Allison Clements,
Mark C. Christie, and Willie L. Phillips.

California Independent System Operator Corporation   Docket No. ER22-1278-000

ORDER ON TARIFF REVISIONS

(Issued May 27, 2022)

1. On March 11, 2022, the California Independent System Operator Corporation (CAISO) filed, pursuant to section 205 of the Federal Power Act (FPA),[1] amendments to its Open Access Transmission Tariff (Tariff) intended to enhance the resource sufficiency evaluation (RSE) for the Energy Imbalance Market (EIM) prior to summer 2022. Specifically, CAISO proposes to: (1) revise the balancing test component of the RSE to exclude entities not subject to the balancing test from potential revenue allocation; (2) make a number of amendments to the capacity test and flexibility test components of the RSE; and (3) remove the incremental capacity test requirement determined using a historical intertie uncertainty calculation.[2] In this order, we accept CAISO's proposed Tariff amendments, effective as of the actual implementation date, as requested, subject to CAISO filing a notice with the Commission within five days after CAISO's actual implementation date.[3]

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[1] 16 U.S.C. § 824d.

[2] Transmittal at 3.

[3] CAISO used a record version number of 19.0.0 for its revised record in eTariff. Each version of a tariff record must have a unique record version number. CAISO should establish a unique record version number, as appropriate, whenever it revises a tariff record. *See Implementation Guide for Electronic Filing of Parts 35, 154, 284, 300, and 341 Tariff Filings* at 9, https://www.ferc.gov/sites/default/files/2020-05/OSEC%20Implementation%20Guide.pdf.

I. Background

2. CAISO has administered the EIM since November 2014; the RSE has been part of the EIM since inception and has been modified several times previously.[4] The RSE determines if a balancing authority area (BAA) in the EIM has sufficient capacity and flexibility to meet the forecasted demand and that the EIM base schedules as submitted are both feasible and balanced. The RSE is comprised of four separate tests: (1) feasibility; (2) balancing; (3) capacity; and (4) flexibility. The RSE is run prior to the operating hour at the following intervals: 75 minutes prior (T-75); 55 minutes prior (T-55); and 40 minutes prior (T-40) to the operating hour. The T-40 run of the RSE is financially binding.

3. The feasibility test evaluates power flow of an EIM BAA's submitted base schedules in order to determine if the submitted base schedule will violate transmission limits.[5] The feasibility test helps to minimize re-dispatch and the resulting imbalance charges that are incurred by submitting an unfeasible base schedule before the real-time market and the T-40 binding test. Entities can update their base schedules after the advisory results in the T-75 and T-55 runs of the RSE. The feasibility test is not applied to the CAISO BAA because the CAISO market uses security constrained economic dispatch to automatically resolve transmission violations, and the CAISO BAA uses market results from the day-ahead market, hour-ahead scheduling process (HASP), and real-time pre-dispatch instead of base schedules.

4. The balancing test determines hourly imbalance by comparing an EIM entity BAA's base schedules from generation and imports to the demand forecast. EIM BAAs can choose to either use their own demand forecasts or CAISO's demand forecast for the balancing test, and failure of the balancing test subjects the BAA to either over or under-scheduling load penalties. This results in a financial incentive – avoiding penalties – for BAAs to provide and update their base schedules in line with forecasted demand. Like the feasibility test, the CAISO BAA is not subject to the balancing test.

5. The capacity test determines whether a BAA is participating in the real-time market with sufficient capacity and accompanying energy bids for over and under capacity requirements based on that supply made available to meet the demand forecast.[6] The capacity test requires this additional amount of resource capacity in order to account

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[4] Transmittal at 4 (citing *Cal. Indep. Sys. Operator Corp.,* 153 FERC ¶ 61,087 (2015); *Cal. Indep. Sys. Operator Corp.,* 156 FERC ¶ 61,226 (2016); *Cal. Indep. Sys. Operator Corp.,* 175 FERC ¶ 61,160 (2021)).

[5] *Id.* at 5.

[6] *Id.* at 6.

for net-load uncertainty and intertie uncertainty. The capacity test informs the subsequent flexibility test in that if a BAA fails the capacity test for an interval, it will also fail the flexibility test for the corresponding hour's 15-minute interval.

6. The flexibility test assesses whether BAAs have sufficient ramping capability to meet the demand forecast changes and uncertainty associated with load and the performance of renewable resources. The flexibility test evaluates four ramp intervals from the last 15-minute schedule from the proceeding hour to each 15-minute interval of the current hour. This informs whether a BAA has upward and downward flexible capacity available to be dispatched in real-time.[7]

II. **Filing**

7. CAISO explains that the proposed Tariff amendments will enhance the RSE by assessing more accurately whether a BAA in the EIM is scheduling or bidding sufficient supply in the upcoming hour to meet its demand and will produce a more appropriate allocation of revenues resulting from RSE penalties. Specifically, CAISO proposes to: (1) revise the balancing test component of the RSE to exclude entities not subject to the balancing test revenue allocation; (2) enhance the accounting of supply that affects resource availability in the capacity test and, in some cases, the flexibility test; (3) adjust the upward ramping capability requirement in the flexibility test to account for power balance constraint relaxation; (4) consider the state of charge for storage resources in the capacity and flexibility tests; (5) allow an EIM entity to adjust its demand forecast referenced in the capacity and flexibility tests to account for demand response not currently represented in the real-time market; (6) discount CAISO interchange without a tagged transmission profile equal to the HASP award from the capacity and flexibility tests for the CAISO BAA; and (7) eliminate the incremental capacity test requirement determined using a historical intertie uncertainty calculation.

8. According to CAISO, the proposed Tariff amendments build upon understandings learned through root cause analyses of the heat wave events in August 2020 and July 2021, and CAISO's discussions with stakeholders through the Summer 2021 Readiness stakeholder initiative. CAISO states that the proposed amendments are feasible to implement prior to summer 2022 and were developed with the input of stakeholders. CAISO notes that the categories of proposed Tariff amendments are separate elements in a multi-part filing and as such are severable and discrete from one another. Each proposed category of Tariff amendments is discussed below. CAISO requests that the Commission issue an order by May 27, 2022 in order to implement the proposed Tariff amendments on or after June 1, 2022. According to CAISO, this timeline will provide

[7] *Id.*

sufficient advance notice and time for market participants and CAISO to prepare for summer 2022.

III. Notice and Responsive Pleadings

9. Notice of CAISO's March 11, 2022 filing was published in the *Federal Register*, 87 Fed. Reg. 15,418 (Mar. 18, 2022), with interventions and protests due on or before April 1, 2022. The Cities of Anaheim, Azusa, Banning, Colton, Pasadena, and Riverside, California (collectively, Six Cities), Pacific Gas and Electric Company, the City of Santa Clara, California, Southern California Edison Company, the Modesto Irrigation District, and the Northern California Power Agency filed timely motions to intervene. The Department of Market Monitoring of the California Independent System Operator Corporation (DMM) and Powerex Corp. (Powerex) filed timely motions to intervene and comments. The California Public Utilities Commission (CPUC) filed a notice of intervention and limited protest. Idaho Power Company (Idaho Power) filed a motion to intervene out-of-time and comments. On April 15, 2022 and April 18, 2022, respectively, CAISO and Powerex filed answers to CPUC's protest. On May 16, 2022, CPUC filed an answer to answers.

10. Commenters either support or do not oppose the majority of CAISO's proposed Tariff amendments. However, as discussed in more detail below, CPUC raises concerns regarding CAISO's proposal to require the CAISO BAA to tag interchange by T-40.[8]

IV. Discussion

A. Procedural Matters

11. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2021), the notice of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

12. Pursuant to Rule 214(d) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214(d), we will grant Idaho Power's late-filed motion to intervene given its interest in the proceeding, the early stage of the proceeding, and the absence of undue prejudice or delay.

13. Rule 213(a)(2) of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2) (2021), prohibits an answer to a protest or answer unless otherwise ordered by the decisional authority. We accept CAISO's, Powerex's, and CPUC's

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[8] *See* CPUC Limited Protest at 3.

answers because they have provided information that assisted us in our decision-making process.

B. Substantive Matters

14. As discussed below, we accept CAISO's proposed Tariff amendments, effective as of the actual implementation date, as requested, subject to CAISO filing a notice with the Commission within five days after CAISO's actual implementation date.

1. Excluding Certain Entities not Subject to the Balancing Test from Potential Revenue Allocation

a. Proposal

15. CAISO proposes to revise Tariff section 29.34(k) to exclude EIM entities who are not subject to the balancing test from receiving any allocation of revenues that may result from other entities failing the balancing test portion of the RSE. Currently, the CAISO BAA is the only EIM entity that is not subject to the balancing test. CAISO explains that this proposed revision would preclude the CAISO BAA from being eligible to share in revenues resulting from entities failing the balancing test. CAISO explains that the balancing test has not applied to the CAISO BAA because the CAISO BAA is not similarly situated to the other EIM BAAs in that it does not actively make available to the market its supply through the base scheduling process and its real-time market imbalance energy is settled relative to day-ahead schedules produced by the forward market in the CAISO BAA.[9]

16. CAISO explains that some stakeholders suggested the balancing test should be expanded to the CAISO BAA; however, CAISO states that it believes it is reasonable to continue to exclude the CAISO BAA because there are features in the CAISO market that ensure the base schedules align closely with forecasted demand, which is also the purpose of the balancing test. CAISO notes that if any other EIM entities become similarly situated to the CAISO BAA, they too would be exempt from the balancing test and any potential revenue allocation.[10]

b. Commission Determination

17. We accept CAISO's proposed Tariff amendments to exclude EIM entities that are not subject to the balancing test from being allocated any revenues arising from the balancing test. We find that it is reasonable to exclude any BAA not subject to the

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[9] Transmittal at 9.

[10] *Id.* at 10, n.28.

balancing test from being allocated the potential revenues resulting from failures of other BAAs that are subject to this test because the excluded BAAs are not subject to the test from which these revenues are derived and cannot respond to the incentives intended by the balancing test. As explained by CAISO, the balancing test offers a financial incentive for EIM Entity BAAs to provide base schedules near forecasted demand[11] – this incentive includes receiving any allocation of revenues resulting from other EIM entities failing the balancing test. Receiving such revenues cannot serve as an incentive to submit base schedules near forecasted demand for a BAA like the CAISO BAA that is not subject to the balancing test because it does not use the base scheduling process. We find that CAISO's proposed approach to allocating revenues arising from the balancing test provides a balanced and equitable solution that accounts for the different ways entities participate in the real-time market.

2. Improved Accounting of Supply in the Capacity Test

a. Proposal

18. CAISO states that the capacity test does not currently account for certain real-time conditions that affect market supply in the RSE. According to CAISO, since not all conditions are captured in the capacity test, the capacity test potentially overestimates the supply that is available in the real-time market because some of the supply counted may actually be unavailable or limited. CAISO explains that during the heat wave in August 2020, the discrepancy between what the RSE counted as available and what resources were actually able to perform in real-time led to the CAISO BAA passing the capacity test in several intervals even though some of the resources counted were still returning from outages. CAISO states that the proposed changes will allow the capacity test to more accurately account for the supply that is available in the real-time market.[12]

19. CAISO explains that the real-time market consists of two processes that issue start-up instructions to offline resources – the short-term unit commitment process (STUC) and the real-time pre-dispatch (RTPD). The STUC and the RTPD start up resources that are available in different time horizons; the STUC starts resources whose start-up time plus minimum run time is within the 4.5-hour look-ahead time horizon, while the RTPD starts resources whose start-up time plus minimum run time is within the time horizon of the particular RTPD run, which ranges from 1 hour to 1.75-hour look-ahead.[13]

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[11] *See id.* at 10.

[12] *Id.* at 11.

[13] *Id.*

20. In this filing, CAISO proposes to change the capacity test to consider a resource's start-up time when evaluating an offline, bid-in resource that the real-time market is capable of starting. Short start units will be counted in the upcoming hour's capacity test if they have a start-up time longer than the RTPD horizon only if there is a bid for the resource through the upcoming hour, the resource is currently offline in the last 15-minute interval before the hour under evaluation, and the resource has remaining start-ups in the day.[14] CAISO also proposes to refine the capacity test within the STUC and RTPD time horizons to more accurately account for capacity available in the real-time market by discounting as available capacity short start units with a bid in the real-time market that received a start-up instruction that was not followed,[15] and discounting short start units that are on outage in the upcoming hour or are returning from outage but unable to start up within the hour under evaluation.[16] Additionally, CAISO proposes to count capacity from a multi-stage generating resource with bids through the hour under evaluation for capacity that is available at the time the resource is transitioned to another configuration.[17]

21. Finally, CAISO proposes to include the ramping capability available from multi-stage generating resources transitioning between configurations in the flexibility test.[18] CAISO states that it believes it is appropriate to consider the ramping capability that is available during transitions as additional upward or downward ramping capability when evaluating an EIM BAA's flexibility.

b. Commission Determination

22. We accept CAISO's proposal to consider start-up times and other physical limitations of generating resources in the capacity and flexibility tests as just and

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[14] *Id.* at 12; CAISO, CAISO eTariff, revised § 29.34 EIM Operations (19.0.0), § 29.34(l)(2)(A)(i).

[15] Transmittal at 12; CAISO, CAISO eTariff, revised § 29.34 EIM Operations (19.0.0), § 29.34(l)(2)(B)(i).

[16] Transmittal at 12; CAISO, CAISO eTariff, revised § 29.34 EIM Operations (19.0.0), § 29.34(l)(2)(B)(ii).

[17] Transmittal at 13; CAISO, CAISO eTariff, revised § 29.34 EIM Operations (19.0.0), § 29.34(l)(2)(A)(ii).

[18] Transmittal at 15; CAISO, CAISO eTariff, revised § 29.34 EIM Operations (19.0.0), § 29.34(l)(2)(A)(iii).

reasonable. We find that these provisions will help CAISO more accurately account for available supply and reduce the risk of overestimation of supply in the real-time market.

3. Adjustment of the Upward Flexibility Ramping Capability Requirement

a. Proposal

23. CAISO proposes to revise section 29.34 of its Tariff to adjust the upward flexibility ramping capability requirement for all EIM entities.[19] The current flexibility test measures a BAA's ability to ramp between forecasted demand variations, including uncertainty, for each 15-minute real-time interval within the hour under evaluation. The capability requirement for upward and downward ramping is calculated using the 15-minute real-time interval results immediately prior to the hour being evaluated under the flexibility test. CAISO states that the existing calculation may artificially bias the upward and downward capability requirements because the calculation will not reflect the expected operating conditions from which the test is ensuring the ability to ramp.[20] Accordingly, CAISO proposes to adjust the flexibility test to calculate the quantity of any power balance constraint relaxation that is present in the market, except when the constraint relaxation occurs because of operator load conformance adjustments. CAISO states that this adjustment will increase accuracy in the flexibility test by ensuring that the ramping requirements will be more consistently calculated from the forecasted load referenced across intervals.

b. Commission Determination

24. We accept CAISO's proposed Tariff amendments to adjust the upward flexible ramping capability requirements as just and reasonable. We agree with CAISO that the proposed adjustment should improve the accuracy of the flexibility test by preventing instances of power balance constraint relaxations from biasing the calculation determining upward ramping needs. We find that it is just and reasonable to account for these conditions and further to exclude operator load conformance adjustments resulting in power balance constraint relaxations from the calculation.

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[19] Transmittal at 16; CAISO, CAISO eTariff, revised § 29.34 EIM Operations (19.0.0), §29.34(m).

[20] Transmittal at 16.

4. Consideration of the State of Charge for Storage Resources in the Capacity and Flexibility Tests

a. Proposal

25. CAISO proposes to account for the unique characteristics of battery storage in the capacity and flexibility tests of the RSE by limiting the counting of these resources to the capacity and ramping capability corresponding to their charge amounts at the time of the RSE.[21] CAISO states that this proposal is based on availability of telemetry information to it at the time of the capacity and flexibility tests of the RSE.[22] CAISO provides an example to illustrate the need for this proposal in which a battery storage resource has 100 MWh of charge immediately prior to the hour of the RSE but the ability to discharge 200 MWh during an hour under the registered capabilities of the resource. CAISO's proposal would limit bids that count toward the RSE to what can be supported by that resource's state of charge – in CAISO's example, 100 MWh.

b. Commission Determination

26. We accept CAISO's proposed Tariff amendments to account for the state of charge of battery storage resources as just and reasonable. We agree with CAISO that the proposed changes will more accurately reflect the available capacity and ramping capability of battery storage resources for the purposes of the capacity and flexibility tests of the RSE. We find that it is just and reasonable to account for the state of charge of battery storage resources in these tests, given their unique characteristics relative to other resource categories to which the RSE is applied.[23]

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[21] *Id.* at 17.

[22] *Id.*

[23] *See Elect. Storage Participation in Mkts. Operated by Regional Transmission Org. & Indepe. Sys. Operators*, Order No. 841, 162 FERC ¶ 61,127, at PP 7, 11 (2018) (finding that electric storage resources have unique physical and operational characteristics that may not be recognized in market participation models designed for traditional generation or load resources), *order on reh'g*, Order No. 841-A, 167 FERC ¶ 61,154 (2019), *aff'd sub nom. Nat'l Ass'n of Regulatory Util. Comm'rs. v. FERC*, 964 F.3d 1177 (D.C. Cir. July 10, 2020).

5. <u>Allowing EIM Entities to Adjust Demand Forecast Changes to Account for Demand Response not Represented in the Real-Time Market</u>

a. <u>Proposal</u>

27. CAISO proposes new Tariff section 29.34(I)(2)(D) to allow an EIM entity to adjust the demand forecast used by the RSE to account for demand response administered by the EIM entity BAA that currently cannot be represented within the CAISO market.[24] CAISO explains that these adjustments can be made anywhere within the real-time operating horizon, including the STUC, and that the demand response programs can be reflected as an increase in load that captures expected "pre-cooling" as well as a decrease in forecasted load that reflects the demand response event itself. According to CAISO, these changes will be reflected in the demand forecast used to determine the requirements in both the capacity and flexible ramping sufficiency tests, through either an increase or a decrease in those requirements. CAISO states that its proposal will allow for adjustment of the demand forecast to account for demand response that otherwise does not qualify as supply.[25]

28. CAISO further explains that the load modification a demand response program provides can be performed at the customized load aggregation point using load distribution factors provided by the EIM entity. CAISO states that it would also allow the demand response reductions to be included in, or excluded from, the generated forecast on a BAA-by-BAA basis, based on an attestation provided to CAISO pursuant to the procedures and timelines in its Business Practice Manual for the Energy Imbalance Market. CAISO states that allowing entities to adjust their demand forecast will enable them to decide which demand response programs that they operate may be appropriate for consideration in the capacity, flexibility, and balancing tests.[26] CAISO asserts that this optionality will allow each EIM BAA to utilize both demand response and the most accurate forecast possible within the market. CAISO explains that the default will be to include the demand reduction in the load forecast, and that this will preserve the ability for each EIM entity to work with CAISO to represent its demand response programs, while also ensuring the EIM entities are able to achieve accurate settlement of imbalance energy. CAISO asserts that the proposed Tariff amendments will accommodate the increasing role for demand response in the future. CAISO further asserts that it will

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[24] An EIM entity can include demand response as supply through registration and bidding as a proxy demand response resource using CAISO's existing proxy demand response model. Transmittal at 18.

[25] *Id.*

[26] *Id.* at 18-19.

continue to settle imbalance charges against metered demand and will apply these charges to the extent demand response programs do not operate as expected.[27]

b. Commission Determination

29. We accept as just and reasonable CAISO's proposed Tariff amendments to allow for adjustment of the demand forecast to account for EIM entities' use of demand response that otherwise does not qualify as supply and cannot be represented within the CAISO market. We agree with CAISO that allowing entities to adjust their demand forecast to account for such demand response will allow each EIM BAA to utilize both demand response and the most accurate forecast possible within the market.

6. Discounting CAISO Interchange without a Tagged Transmission Profile

a. Proposal

30. CAISO proposes to discount in the RSE any CAISO interchange schedules not supported by a transmission profile e-Tag equal to its HASP award submitted no later than 40 minutes prior to the operating hour (T-40).[28] CAISO states that interchange schedules with an e-Tag are a "reasonable representation" of an interchange schedule awardee's intent to deliver or receive its award in the CAISO BAA. CAISO explains that, because the other EIM entities are able to reflect their expected bilateral interchange schedules through changing their base schedules up until the final run of the RSE at T-40 minutes prior to the operating hour, the interchange among EIM entities is represented in the base scheduling process. CAISO states that there is no indication that interchange conducted under the open access transmission tariff framework of the other EIM entities is open to the same type of bidding as CAISO's intertie market bidding and scheduling process that may raise concerns about undelivered awards.[29]

31. CAISO notes that the proposal may increase the possibility of the CAISO BAA failing the RSE through disqualification of its import supply and that this proposal is not applied symmetrically across the EIM. However, CAISO states that the asymmetrical treatment is justified because of how CAISO handles intertie transactions and how exports are cleared in the HASP compared to bilateral transactions the rest of the EIM entities use. CAISO states that it cannot justify counting import supply for purposes of

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[27] *Id.* at 19.

[28] *Id.* at 20; CAISO, CAISO eTariff, revised § 29.34 (EIM Operations) (19.0.0), § 29.34(l)(2)(B)(iii).

[29] Transmittal at 20.

passing the RSE if it does not have a reasonable assurance of that supply being delivered.[30]

b. <u>Comments and Protests</u>

32. Powerex supports CAISO's proposal to discount CAISO interchange not supported by a tagged profile. Powerex asserts that the CAISO BAA has extensively leaned on other EIM entities and that it has passed the RSE when it should not have, putting other EIM entities at risk of price spikes and reliability risks.[31]

33. While DMM states that it does not oppose the proposal to discount CAISO interchange not supported by a tagged profile, it states that it is unclear why CAISO would not apply this rule universally in the EIM.[32] DMM explains that it believes it reasonable for the tests to use an objective criterion to assess if an import is unlikely to be delivered, and then to not count an import towards meeting an area's resource sufficiency requirement if the import does not satisfy that criterion. However, DMM contends that CAISO has not adequately differentiated base schedule imports into non-CAISO EIM BAAs as inherently reliable and therefore should clarify why this proposal is not universal.[33]

34. CPUC argues that the proposal to discount CAISO interchange not supported by a tagged profile is unduly discriminatory because it only applies to the CAISO BAA. CPUC notes that CAISO has also proposed in the instant proceeding to eliminate the intertie uncertainty requirement, which was intended to account for the risk that some share of imports are not delivered and was imposed on all EIM entities, but it has proposed to add a transmission tagging requirement as an import failure mitigation measure on the CAISO BAA alone.[34] CPUC points out that all EIM entities rely on imports to meet their RSE requirements and all have imports that fail to deliver, and it asserts that the CAISO BAA is being unjustly burdened over the other EIM entities.

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[30] *Id.* at 21.

[31] Powerex Comments at 5-6.

[32] DMM also states that it supports or does not oppose all of CAISO's other proposed Tariff amendments. DMM Comments at 2.

[33] *Id.* at 11.

[34] CPUC Limited Protest at 6-7.

CPUC argues that CAISO has not provided a clear explanation as to why it believes the CAISO BAA to be uniquely situated.[35]

35. In addition, CPUC contends that the requirement could lead to market manipulation and will further exacerbate RSE rules that CPUC asserts already prejudice the CAISO BAA, increasing the likelihood that the CAISO BAA fails the RSE.[36] Specifically, CPUC argues that requiring transmission to be tagged at T-40 could create an incentive for market participants to not tag imports, causing the CAISO BAA to fail the RSE and driving up prices, which would create a windfall opportunity for those who can take advantage of the higher prices. CPUC expresses concern that this proposal has neither "off-ramp" provisions nor measures to mitigate this potential risk, and notes that CAISO's Market Surveillance Committee advised CAISO to closely monitor this proposal should it be implemented.[37]

36. CPUC suggests that there are more tailored ways for CAISO to address import failures and alternatively review and revise its import deviation penalties.[38] CPUC agrees with CAISO that this portion of the proposal is severable and requests that the Commission reject it and approve the other proposed amendments.[39]

c. <u>Answers</u>

37. Powerex asserts that, contrary to CPUC's arguments, there are several features that make the CAISO BAA uniquely situated and justify asymmetrical application of the proposal to discount CAISO interchange not supported by a tagged profile. Powerex states that the CAISO BAA is the only EIM entity that has enabled intertie bidding, the California resource adequacy program allows load serving entities to meet import resource adequacy requirements with contracts that are not backed by physical supply, and CAISO does not require forward and day-ahead physical import transactions to be eTagged on a day ahead basis. Powerex explains that these elements result in limited

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[35] *Id.* at 9.

[36] *Id.* at 3-4.

[37] *Id.* at 10-11 (citing CAISO Market Surveillance Committee, *Opinion on Energy Imbalance Market (EIM) Resource Sufficiency Evaluation Enhancements*, at 27 (Feb. 2, 2022), http://www.caiso.com/Documents/MSCFinalOpiniononEIMResourceSufficiencyEvaluationEnhancements-Phase1.pdf (Market Surveillance Committee Opinion)).

[38] *Id.* at 16.

[39] *Id.* at 18.

visibility in the CAISO BAA as to whether there are resources and secured transmission service supporting issued import awards until after an eTag is submitted. Powerex argues that there is a significant quantity of import schedules awarded in the CAISO market that do not represent real physical supply, but that the current RSE test treats all of the CAISO's import awards as if they do represent available and deliverable supply, ultimately leading to the amount of supply available to the CAISO BAA being overstated.[40]

38. Powerex explains that forward and day-ahead transactions in Western bilateral markets are either firm energy or similar arrangements that require an eTag to be submitted in the day-ahead timeframe, transactions after the day-ahead timeframe are largely entered into with suppliers who have physical supply and typically require prompt submittal of an eTag, and the small volume of transactions not tagged by T-40 are those where the resource and transmission path are known but are pending final necessary information to submit the eTag. Powerex argues that the proposal addresses a problem unique to the CAISO BAA because it will hold the CAISO BAA to the same standard as the other EIM entities in that only supply with a reasonable assurance of availability and deliverability will be included in the RSE.[41]

39. Idaho Power states that it and other EIM entities are subject to similar tagging requirements already that are designed to ensure outside resources used to support resource sufficiency are deliverable.[42] Idaho Power states that its open access transmission tariff contains provisions that require at T-57 for it to have in place a financially binding base schedule that includes the obligation to eTag transmission for delivery into the EIM. Idaho Power explains that these eTags submitted at T-57 are used in the financially binding base schedule utilized in the RSE; therefore, Idaho Power and other EIM entities with similar OATT provisions are already meeting a more stringent requirement than what CAISO has proposed here for the CAISO BAA.[43]

40. In its answer, CAISO states that contrary to CPUC's claims, there are relevant differences in the Tariff rules with respect to intertie transactions that justify asymmetrical application of the tagging proposal. CAISO states that the Commission has

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[40] Powerex Answer at 3-4.

[41] *Id.* at 13.

[42] Idaho Power Comments at 4.

[43] *Id.* at 5.

recognized rates, terms, and conditions of service are not unduly discriminatory or preferential if there is a rational basis to treat differently situated entities differently.[44]

41. CAISO clarifies that this proposal is related to an existing Tariff rule that is only applicable to the CAISO BAA. CAISO states that in 2021 it implemented new Tariff provisions requiring that scheduling coordinators submit a valid eTag with a transmission profile equal to the applicable economic bid or self-schedule by T-40, and that if an eTag is not submitted by T-40, CAISO's systems adjust the associated energy schedule for each 15-minute market interval of the hour in the CAISO market. According to CAISO, the tagging proposal ensures the RSE will not count import or export bids to or from CAISO without a transmission profile in a submitted eTag that supports its interchange schedule by T-40. CAISO states that this is similar to the existing Tariff rule in that it discounts schedules in the market that are not tagged by T-40 and it is reasonable to expect that untagged intertie transactions will not arrive in real-time. CAISO says that this will provide more accurate information to run the RSE and improve the accuracy of the test for the CAISO BAA.[45]

42. CAISO disputes CPUC's suggestion that the tagging requirement is intended to reduce import failures and clarifies that the proposal is to reduce the risk of counting supply in the RSE that may not be delivered in real-time.[46] CAISO acknowledges both CPUC and DMM are correct that a significant amount of base schedule imports in EIM entity BAAs are not delivered, but explains that this proposal ensures the accuracy of tested schedules and is not intended to perform the functions of the intertie deviation adder.[47] CAISO also explains that, contrary to CPUC's assertions, the rationale underlying the historical intertie uncertainty requirement recently removed by CAISO is different from the rationale for the RSE tagging proposal. According to CAISO, the historical intertie uncertainty requirement estimated the quantity of expected supply that might not be delivered and prospectively increased the RSE requirement accordingly, rather than discounting the supply counted in the RSE based on a rule that aligns with an existing CAISO Tariff rule. CAISO asserts that these features of the RSE are fundamentally different and do not suggest that all intertie RSE accounting practices must be symmetrical. CAISO also disputes CPUC's interpretation of the Market Surveillance Committee's observations about the potential perverse effects of this proposal, stating

[44] CAISO Answer at 4 (citing 16 U.S.C. § 824d(b)).

[45] *Id.* at 6.

[46] *Id.* at 7.

[47] *Id.*

that the Market Surveillance Committee supports the tagging proposal.[48] CAISO clarifies that the Market Surveillance Committee described the incentives for market participants to refrain from tagging imports until after T-40 as weak, but states that CAISO is committed to monitoring as suggested by the Market Surveillance Committee.

43. Next, CAISO states that CPUC's suggested alternative ways to address the issue are beyond the scope of the proceeding. According to CAISO, an "off-ramp" type provision is not warranted because there are no concerns as to how this will be measured, and if CAISO identifies any unintended material adverse impacts on wholesale markets after implementation of the proposed rule, it will seek expedited consideration of any appropriate Tariff amendments.[49] CAISO also argues that the increased potential for the CAISO BAA to fail the RSE because of improved accuracy in the RSE test is not a legitimate basis to reject CAISO's proposal. Finally, CAISO reiterates its commitment to continue to work with stakeholders on ongoing and subsequent enhancements to the RSE.[50]

44. CPUC asserts that CAISO's answer acknowledges, but does not adequately explain, its disparate treatment of the CAISO BAA. According to CPUC, the different rationales for the historical intertie uncertainty adder and the T-40 tagging requirement are immaterial; what matters is their effect. CPUC contends that the Market Surveillance Committee recognized the core similarities, describing the intertie uncertainty adder and the T-40 tagging requirement as "duplicative."[51] Given this, CPUC maintains that the CAISO BAA should not be subject to an RSE tagging requirement until CAISO has updated the intertie uncertainty adder and determined the best way to reconcile the two overlapping measures. CPUC also contends that if existing EIM entity tariff rules achieve a similar effect as the T-40 tagging requirement by requiring other EIM entity BAAs to fix their schedules even earlier than T-40, then the tagging requirement could be applied to all EIM BAAs without any adverse impact. According to CPUC, CAISO has not explained how or why the tagging requirement would not overlay well with the other EIM entity tariff rules. Accordingly, CPUC contends that CAISO has not adequately justified why the CAISO BAA is situated differently from other BAAs.[52] In addition, CPUC disputes CAISO's description of the Market Surveillance Committee's comments as stating that market participants have a weak incentive not to tag imports. According to

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[48] *Id.* at 9 (citing Market Surveillance Committee Opinion at 26-27).

[49] *Id.* at 10-11.

[50] *Id.* at 12.

[51] CPUC Answer at 3-4 (citing Market Surveillance Committee Opinion at 27).

[52] *Id.* at 4-5.

CPUC, the Market Surveillance Committee wrote that the incentive to tag is weak.[53] CPUC states that it is concerned the incentive to tag will only be further weakened if the tagging requirement goes into effect and creates an opportunity for market participants to force the CAISO BAA into an RSE failure, potentially driving up prices.[54]

45. CPUC also asserts that Powerex's answer distracts from the central issue, misrepresents the CPUC's resource adequacy program and CAISO BAA import rules, and fails to support its claims with evidence. According to CPUC, Powerex reliably lobbies for a requirement that CAISO load serving entities support their imports with firm transmission, which would be in Powerex's direct financial interest.[55] CPUC contends that Powerex's answer contains much of the same argumentation, repackaged to support the proposed tagging requirement, and that these arguments are beyond the scope of the subject proceeding. CPUC further asserts that there are multiple requirements to ensure that resource adequacy imports scheduled in the CAISO BAA actually deliver, and that contrary to Powerex's claims, there is ample evidence showing that all EIM entities suffer from import failures.[56]

46. CPUC emphasizes that it is not opposed to the implementation of the T-40 intertie tagging requirement, just the manner in which CAISO proposes to implement it. CPUC asserts that, should CAISO wish to impose the RSE tagging requirement, it should do so on all EIM entities or implement it in conjunction with its update to the intertie uncertainty requirement to ensure equal, non-discriminatory treatment of CAISO load.[57]

d. <u>Commission Determination</u>

47. We accept CAISO's proposal to discount in the RSE any CAISO interchange schedules not supported by eTags by T-40 as just and reasonable. We find that CAISO has justified applying this requirement only to the CAISO BAA, and are not persuaded by CPUC's arguments to the contrary. As CAISO explains, its proposal is related to an existing Tariff rule that applies only to the CAISO BAA. Under CAISO's existing Tariff provisions, an import into the CAISO BAA or export out of the CAISO BAA must have a valid eTag with a transmission profile equal to the applicable economic bid or self-schedule submitted by T-40, or CAISO will automatically adjust the energy profile to

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[53] *Id.* at 5 (citing Market Surveillance Committee Opinion at 27).

[54] *Id.*

[55] *Id.* at 5-6.

[56] *Id.* at 6-7 (citing DMM Comments at 11; CPUC Limited Protest at 3-4).

[57] *Id.* at 7.

match the transmission profile or zero out the schedule from the market entirely if there is no valid eTag.[58] CAISO's proposal in the instant filing is intended to ensure the RSE does not count import bids or export bids for delivery to or from CAISO without a transmission profile in a submitted eTag that supports its interchange schedule by T-40. In contrast, the interchange accounting rules that apply in EIM entity BAAs are different from the CAISO Tariff rules.[59] Under the EIM entities' tariffs, transmission customers may modify their base schedules until no later than T-57. Moreover, under these provisions, as of T-55, interchange base schedule data will be considered financially binding and transmission customers may not submit further changes to their interchange base schedules.[60] These EIM entity tariffs do not automatically adjust schedules to match transmission profiles or zero out transactions that are not eTagged by T-40, and as such, the EIM entity BAAs already have requirements designed to produce similar results through different rules.[61] While CAISO's proposed eTagging rule aligns with an existing CAISO Tariff rule applicable to scheduling coordinators in the CAISO market, it does not comport with the EIM entity tariff rules. Accordingly, we find that CAISO has

[58] CAISO, CAISO eTariff, § 30.5.7 E-Tag Rules and Treatment of Intertie Schedules (5.0.0), § 30.5.7.1.

[59] *See* CAISO Answer at 5.

[60] *See, e.g.*, Arizona Public Service Co., FERC Electric Tariff Vol. No. 2, OATT, attach. Q, Energy Imbalance Market, § 4 Roles and Responsibilities (7.0.0), § 4.2.4.5.2; Avista Corp., FERC Electric Tariff Vol. No. 8, OATT, attach. P, Energy Imbalance Market (1.0.0), § 4 Roles and Responsibilities, § 4.2.4.5.2; Idaho Power Co., IPCo eTariff, OATT, attach O, Energy Imbalance Market, § 4 Roles and Responsibilities (2.0.0), § 4.2.4.5.2; Los Angeles Department of Water and Power OATT, attach. O, Energy Imbalance Market, § 4 Roles and Responsibilities, § 4.2.4.5.2; Nevada Energy Co., OATT, attach. P, Energy Imbalance Market (0.7.0), § 4 Roles and Responsibilities § 4.2.4.5.2; Salt River Project Agricultural Improvement and Power District, OATT, attach. S, Energy Imbalance Market, § 4 Roles and Responsibilities § 4.2.4.5.2; and Tacoma Power OATT, attach. O, Energy Imbalance Market § 4 Roles and Responsibilities, § 4.2.4.5.2.

[61] Base schedules submitted by other EIM entity BAAs include forecast information for all resources, interchange, and intrachange. At T-55, when the base schedules become financially binding, provisions in the EIM entities' tariffs also include an obligation to eTag transmission that is delivered into the EIM. Any transmission delivered into the EIM by an EIM entity BAA should be eTagged and scheduled based on forecasts pursuant to their tariffs, which effectually produces a similar result to the proposed eTagging tariff amendment by ensuring the RSE does not count import bids or export bids without eTagged transmission. *See* CAISO Answer at 6-7.

justified applying this requirement only to the CAISO BAA, because the balancing authority areas are not similarly situated.[62]

48. While we agree with CPUC that all EIM entities suffer from import failures, CAISO has specified that the intent of the proposed rule is to reduce the risk of counting supply in the RSE that is less likely to be delivered to the market in real-time.[63] CAISO often relies on considerable volumes of imported energy to meet load.[64] In that regard, including un-tagged schedules in the RSE risks introducing inaccuracies by including a potentially large volume of imports that may not be delivered into CAISO while still counting those imports in the different tests determining whether CAISO has met its resource sufficiency needs. We acknowledge that CAISO's proposal may increase the instances of the CAISO BAA failing the RSE; however, the mere fact that the CAISO BAA may fail the RSE more frequently under this proposal does not necessarily warrant rejection. Indeed, the potential for increased RSE failures arises from the increased accuracy in the RSE that this proposal would provide. Moreover, we find that the proposal is responsive to issues identified in the root cause analysis resulting from the 2020 August heat event where the CAISO BAA passed the RSE in intervals it should have failed.[65]

49. Finally, we find that eTagging at T-40 provides information to CAISO in its efforts to more accurately identify the imports to (and exports from) the CAISO BAA in the RSE. Indeed, several EIM entities have similar or more stringent tagging

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[62] *See, e.g., Calpine Corp. v. PJM Interconnection, L.L.C.*, 171 FERC ¶ 61,035, at P 318 (2020) ("Whether a rate or practice is unduly discriminatory depends on whether it provides different treatment to different classes of entities and turns on whether those classes of entities are similarly situated."); *see also Town of Norwood v. FERC*, 202 F.3d 392, 402 (1st Cir. 2000) ("But differential treatment does not necessarily amount to undue preference where the difference in treatment can be explained by some factor deemed acceptable to regulators (and the courts).").

[63] *See* CAISO Answer at 7.

[64] *See* DMM, *2020 Annual Report on Market Issues and Performance*, at 46 (Aug. 2021), http://www.caiso.com/Documents/2020-Annual-Report-on-Market-Issues-and-Performance.pdf.

[65] *See* CAISO, CPUC, and California Energy Commission (CEC), *Final Root Cause Analysis Mid-August 2020 Extreme Heat Wave*, January 13, 2021, http://www.caiso.com/Documents/Final-Root-Cause-Analysis-Mid-August-2020-Extreme-Heat-Wave.pdf.

requirements as what CAISO proposes for the RSE calculations.[66] We agree with Powerex that this proposal would create a similar requirement in the CAISO BAA as exists in other EIM entities, and therefore find it to be a reasonable solution to more accurately account for CAISO's imports and exports.

7. Eliminating the Historical Intertie Uncertainty Calculation

a. Proposal

50. CAISO proposes to revise section 29.34 of its Tariff to eliminate the incremental capacity test requirement determined using a historical intertie uncertainty calculation[67] and to remove the net-load uncertainty language from the RSE Tariff provisions.[68] CAISO explains that pursuant to the existing Tariff, the historical net import/export deviation calculates, with a 95% confidence interval, a future projection of intertie deviation between T-40 and T-20 using a retroactive review of deviations from the previous 90 days for purposes of the capacity test. According to CAISO, this ensures the largest 2.5% of deviations are excluded from the calculation and ensures the largest magnitude of intertie uncertainty regarding a failure to deliver is not added to the capacity requirement. CAISO explains that an analysis detailing the impact of the current intertie uncertainty calculation methodology shows the intertie uncertainty calculation has significantly affected the results of the capacity test. In addition, CAISO states, the analysis shows that the current confidence interval of 95% using a 90-day look-back is not a sufficiently accurate indicator of future expected intertie uncertainty to justify its increased requirements in the test. According to CAISO, stakeholders requested CAISO

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[66] *See, e.g.*, Arizona Public Service Co., FERC Electric Tariff, Vol. No. 2, OATT, attach. Q, Energy Imbalance Market § 4 Roles and Responsibilities (7.0.0) § 4.2.4.5.2; Avista Corp. OATT, FERC Electric Tariff Vol. No. 8, OATT attach. P, Energy Imbalance Market (1.0.0), § 4 Roles and Responsibilities, § 4.2.4.5.2; Idaho Power Co. IPCo eTariff, OATT, attach O, Energy Imbalance Market, § 4 Roles and Responsibilities (2.0.0), § 4.2.4.5.2; Los Angeles Department of Water and Power OATT, attach. O, Energy Imbalance Market, § 4 Roles and Responsibilities, § 4.2.4.5.2; Nevada Energy OATT, attach. P, Energy Imbalance Market (0.7.0), § 4 Roles and Responsibilities, § 4.2.4.5.2; Salt River Project Agricultural Improvement and Power District, OATT, attach. S, Energy Imbalance Market, § 4 Roles and Responsibilities, § 4.2.4.5.2; and Tacoma Power OATT, attach. O, Energy Imbalance Market, § 4 Roles and Responsibilities, § 4.2.4.5.2.

[67] *See* CAISO, CAISO eTariff, § 29.34 EIM Operations (19.0.0), § 29.34(l)(4), Additional Hourly Capacity Requirements; *id.* § 29.34(m)(6), Incremental Requirements.

[68] *See id.*, § 29.34(l)(5), Removal of the Uncertainty Requirement.

terminate this calculation until a more accurate intertie uncertainty calculation can be developed.[69]

51. CAISO states that it intends to implement changes to its flexible ramping product in the fall of 2022, which will include a proposed quantile regression methodology with the ability to calculate uncertainty relative to real-time net load and variable energy output, which will provide additional information and context for consideration. According to CAISO, it is possible the uncertainty calculation in the RSE will improve because of this functionality alone, or that some combination of this feature with other suitable calculations will be necessary to achieve the desired accuracy. CAISO states that it has documented that the current intertie uncertainty adder is problematic, and therefore proposes to remove this requirement. CAISO asserts that it will revisit the methodology for calculating this type of uncertainty in a subsequent phase of the RSE Enhancements stakeholder initiative, which CAISO believes will also allow stakeholders to consider both intertie and net-load uncertainty holistically as the maximum amounts of uncertainty are unlikely to occur coincidentally.[70]

52. CAISO explains that some stakeholders commented that the inclusion of the net-load uncertainty adder in the capacity test, which was added just prior to summer 2021, is problematic. According to CAISO, those stakeholders cited DMM analyses indicating that including the adder resulted in a significant increase in failures of the capacity test.[71] Further, CAISO notes that the Market Surveillance Committee Opinion describes statistical issues with the net-load uncertainty adder, suggesting the increase in failures may be due to unresolved issues with the methodology.[72] CAISO believes that this unintended result may arise from the continued use of the histogram methodology, which statistically is not well correlated with an increase in accuracy of the test.[73]

53. CAISO asserts that it has existing Tariff authority not to include this net-load uncertainty requirement in the capacity test upon issuing a market notice at least three

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[69] CAISO Transmittal at 22-23.

[70] *Id.* at 23-24.

[71] *Id.* at 24 (citing CAISO DMM, *EIM Resource Sufficiency Evaluation Metrics Report Covering July and August 2021*, at 12-13 (Sept. 2021), http://www.caiso.com/Documents/Report-on-Resource-Sufficiency-Evaluation-in-the-Energy-Imbalance-Market-for-July-and-August-2021-Sep-23-2021.pdf).

[72] *Id.* (citing Market Surveillance Committee Opinion at 10-13).

[73] *Id.*

business days in advance if certain conditions are met.[74] CAISO explains that it provided initial notice to market participants on February 8, 2022, followed by an updated notice on February 14 clarifying that it would remove this requirement effective February 15, 2022. Subsequently, CAISO states, it removed this requirement and submitted the required informational report to the Commission on February 25, 2022.[75] CAISO proposes to revise the Tariff in the instant filing to reflect removal of the net-load uncertainty requirement from the capacity test as previously authorized by the Commission.[76]

b. <u>Commission Determination</u>

54. We accept CAISO's proposal to delete existing Tariff sections 29.34(l)(4) and 29.34(m)(6)[77] and to otherwise revise section 29.34 as necessary to eliminate the incremental capacity test requirement determined using a historical intertie uncertainty calculation. Removal of these provisions will address the inaccuracy of the current intertie uncertainty calculation methodology as an indicator of future expected intertie uncertainty. Removal of these provisions will also avoid inappropriate failures of the capacity test due to the anomalous intertie deviation requirements arising from statistical issues associated with the intertie uncertainty adder.

55. Finally, we accept CAISO's proposal to delete existing Tariff section 29.34(l)(5) to remove net-load uncertainty language. Removal of this language reflects the fact that CAISO has already disabled this feature of the capacity test in accordance with current authority provided in that section.[78]

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[74] *See* CAISO, CAISO eTariff, § 29.34, EIM Operations (19.0.0), § 29.34(l)(5), Removal of the Uncertainty Requirement.

[75] *See* CAISO, Informational Report, Docket No. ER21-1536-000 (filed Feb. 25, 2022). *See also Cal. Indep. Sys. Operator Corp.*, 175 FERC ¶ 61,160 at P 50.

[76] Transmittal at 24.

[77] CAISO, CAISO eTariff, § 29.34, EIM Operations (19.0.0), § 29.34(l)(4), Additional Hourly Capacity Requirements; *id.* § 29.34(l)(5), Removal of the Uncertainty Requirement; *id.* § 29.34(m)(6), Incremental Requirements.

[78] *See* CAISO, CAISO eTariff, § 29.34, EIM Operations (19.0.0), § 29.34(l)(5), Removal of the Uncertainty Requirement (providing that, "For a period of 12 months after the Uncertainty Requirement has been included in accordance with this Section 29.34(l), the CAISO may upon Market Notice of at least three (3) Business Days no longer include the Uncertainty Requirement if— (A) the frequency or magnitude of capacity test failures supports a conclusion that the results were unintended and caused

<u>The Commission orders</u>:

(A) CAISO's proposed amendments to its Tariff are hereby accepted, to become effective on CAISO's actual implementation date, as requested, as discussed in the body of this order.

(B) CAISO is hereby directed to notify the Commission of the actual effective date of the Tariff amendments within five business days of their implementation, in an eTariff submittal using Type of Filing Code 150 – Report.

By the Commission.

(S E A L)

Kimberly D. Bose,
Secretary.

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by including the Uncertainty Requirement; (B) the CAISO submits an informational report to FERC within 30 days explaining and supporting its conclusion; and (C) the Uncertainty Requirement remains excluded from the capacity test unless and until FERC authorizes otherwise.").

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