



**Response to Stakeholder Comments on Draft Tariff Language
Local Market Power Mitigation Enhancements 2018**

Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
N/A	NV Energy	NV Energy asks will a third-party EIM Participating Resource be permitted to continue to sell into the EIM at their respective Default Energy Bid price, if they are located in the Balancing Authority Area of an EIM Entity that has elected to implement the Net EIM Transfer Limit option? NV Energy states in other words is the election only applicable to the merchant of the EIM; is it a customer-by-customer choice; or does the EIM Entity's protection of its own merchant sales restrict potential sales by third parties?	An election by the EIM entity scheduling coordinator for the CAISO to apply an upper limit to the net EIM transfers would apply equally to all resources in the EIM entity balancing authority area.
N/A	NV Energy	NV Energy questions will the transmission, either capacity donated by the EIM Interchange Rightsholder or ATC identified by the EIM Entity, continue to be available for import and wheel through, even if the EIM Entity elects the Net EIM Transfer Limit option?	An election by the EIM entity scheduling coordinator for the CAISO to apply an upper limit to the net EIM transfers would not restrict the transmission capacity available for increased imports or wheeling. It only would limit increased net EIM transfers out from the EIM entity balancing authority area.
N/A	NV Energy	NV Energy comments that it supports the Competitive LMP Parameter limit being set at \$0.01 in the CAISO Tariff.	See the CAISO's response below.
29.39(e)	NV Energy	NV Energy comments that the draft new section 29.39(e) of the CAISO tariff, the CAISO proposes that the timelines for an EIM Entity to opt into or out of the Net EIM Transfer Limit program will be included in the EIM Business Practice Manual.	The CAISO will clarify in the tariff that the timeline will be the same as the master file timeline changes.



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		<p>NV Energy further comments that this is a practice that can significantly affect rates, terms, and conditions of service and is readily susceptible to specification. NV Energy further states, accordingly, under FERC’s “rule of reason” policy, the timeline should be in the tariff and not the BPM.</p>	
29.39(e)	NV Energy	<p>NV Energy comments that the CAISO tariff should require the CAISO to post a list of the EIM Entities that have imposed the Net EIM Transfer Limit. NV Energy states that this election should be transparent to all market participants. Moreover, certain of the FERC-jurisdictional EIM Entities may elect not to implement this limit as a condition of their continued ability to sell at market-based rates in the EIM. NV Energy states that the posting requirement will give regulators the visibility and assurance that the commitment is being implemented.</p>	<p>The CAISO will include a tariff requirement to publish a list of EIM entities that have requested application of these limits. This detail will be documented in the BPM.</p>
29.39(e)(1)	Bonneville Power Administration	<p>Bonneville comments that the language “from above” is confusing in this context and could be interpreted to reference either 1) a “cap” (a limit from above); or 2) the EIM Entity Scheduling Coordinator that is the subject of the sentence. Bonneville interprets the phrase “from above” to refer to the EIM Entity Scheduling Coordinator’s BAA, but questions whether it should instead refer to the EIM Entity’s BAA. In either case, Bonneville believes the language should be modified to remove the ambiguity.</p>	<p>The CAISO will remove the phrase “from above” and rephrase the reference to this mathematical limit to the “net” incremental EIM transfers.</p> <p>The CAISO proposes these further clarifications:</p> <ul style="list-style-type: none"> (e) Incremental Net EIM Transfer Limit. (1) Election. An EIM Entity Scheduling Coordinator may elect for the CAISO to <u>apply an upper limit to the incremental-net EIM Transfer from above after the MPM process for the EIM Entity Balancing Authority Area pursuant to the election consistent with the</u> procedures and timelines <u>that apply to Master File changes pursuant to Section 29.39(e)(4)-established in the Business Practice Manual for the Energy</u>



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		<p>Bonneville suggests the following potential revision:</p> <p>“(e) (1) “...An EIM Entity Scheduling Coordinator may elect for the CAISO to limit the incremental net EIM Transfer from <u>its EIM Entity Balancing Authority Area</u> above after the MPM process...”</p>	<p>Imbalance Market.</p> <p>(2) Application. <u>In the applicable RTM process,</u> incremental net EIM Transfers from an EIM Entity Balancing Authority Area that has made the election in Section 29.39(e)(1) will be limited when the MPM process triggers mitigation and EIM Transfers <u>in the MPM process</u> are constrained in the import direction to that EIM Entity Balancing Authority Area, or a group of EIM Entity Balancing Authority Areas that includes that EIM Entity Balancing Authority Area.</p> <p>(3) Limit. The incremental net EIM Transfer upper limit will <u>be: (a) the amount by which</u> be the <u>sum of the</u> Flexible Ramping Up awards in the EIM Entity Balancing Authority Area prior to the <u>applicable RTM process for the interval</u> to which the MPM process applies, which is in excess of <u>exceeds the</u> EIM Entity Balancing Authority Area’s corresponding <u>adjusted</u> Flexible Ramping Up requirement, <u>where the Flexible Ramping Up requirements is adjusted for EIM diversity benefit and the portion of the cleared Flexible Ramping Up Demand curve,</u> <u>plus (b)</u> the <u>amount that is the greater</u> of:</p> <p>(A) the net EIM Transfer in the MPM process described in Section 34.1.5 prior to the RTM process for the interval to which the MPM process applies; or</p> <p>(B) the net EIM Transfer represented by the EIM Base Schedules at each EIM Internal Intertie for the interval to which the MPM process applies.</p>



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			<u>(4) Publication. The CAISO will publish a list of EIM Entity Balancing Authority Areas that have elected for the CAISO to apply an upper limit to the net EIM Transfer in accordance with the procedures and timelines for such publication established in the Business Practice Manual for the Energy Imbalance Market.</u>
29.39(e)(1)	Six Cities	Six Cities states that in the second line, the phrase “from above” is confusing. “From above” what? Six Cities asks if there a reference missing?	See the CAISO’s response above.
29.39(e)(3)	Idaho Power Company	<p>Idaho Power Company comments that this tariff language is unclear and hard to follow. Idaho Power Company provides suggested edits to try to clarify and align the language with the language published in the draft final proposal. Idaho Power Company comments that if these changes do not reflect the intent, then this should be revised in a different manner to provide clarification.</p> <p>“(3) Limit. The incremental net EIM Transfer limit will be <u>the amount by which</u> the sum of the Flexible Ramping Up awards in the EIM Entity Balancing Authority Area prior to the RTM process for the interval to which the MPM process applies, which is in excess of exceeds the EIM Entity Balancing Authority Area’s corresponding Flexible Ramping Up requirement, plus the greater of:</p> <p>(A) the net EIM Transfer in the MPM process described in Section 34.1.5 prior to the RTM process for the interval to which the MPM process applies; or</p>	The CAISO will revise this provision accordingly with further clarifications. See above.



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		(B) the net EIM Transfer represented by the EIM Base Schedules at each EIM Internal Intertie for the interval to which the MPM process applies.”	
29.39(e)(2)	Powerex	Powerex provides the following suggested edits: “ <u>In the applicable RTM process,</u> incremental net EIM Transfers from an EIM Entity Balancing Authority Area that has made the election in Section 29.39(e)(1) will be limited when the MPM process triggers mitigation and EIM Transfers <u>in the MPM process</u> are constrained in the import direction to that EIM Entity Balancing Authority Area, or a group of EIM Entity Balancing Authority Areas that includes that EIM Entity Balancing Authority Area.”	The CAISO will revise this provision accordingly. See above.
29.39(e)(3)	Powerex	Powerex states that it supports the CAISO’s proposed tariff language, Powerex believes that one passage in Section 29.39(e)(3) is ambiguous and requires clarification. That section states that: “The incremental net EIM Transfer limit will be the sum of the Flexible Ramping Up awards in the EIM Entity Balancing Authority Area <i>prior to the RTM process for the interval to which the MPM process applies...</i> ” Powerex believes that the intent of the italicized language is unclear and should be clarified.	The CAISO will modify this phrase as follows: “The incremental net EIM Transfer limit will be the sum of the Flexible Ramping Up awards in the EIM Entity Balancing Authority Area prior to the <u>applicable</u> RTM process for the interval to which the MPM process applies . . .” See above.
29.39(e)(3)	Powerex	Powerex provides the following suggested edits:	The CAISO does not agree. There are no limits enforced in the MPM process (which is defined



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		<p>“The incremental net EIM Transfer limit <u>in the MPM process</u> will be the sum of the Flexible Ramping Up awards in the EIM Entity Balancing Authority Area prior to the RTM process for the interval to which the MPM process applies, which is in excess of the EIM Entity Balancing Authority Area’s corresponding Flexible Ramping Up requirement, plus the greater of...”</p>	<p>as the first of the two market runs for each market interval in the fifteen-minute market). The prior clarification is sufficient.</p>
31.2.3	Bonneville Power Administration	<p>Bonneville comments that the commingling of the DAM and RTM markets together in this sentence, along with the use of “and” is confusing. Bonneville states that it recognizes that each market has its own MPM process, and that each MPM process only affects intervals in its respective market. Bonneville states that the sentence is technically accurate, but for clarity Bonneville suggests explicit separation of the DAM and RTM in these sentences or, at a minimum.</p> <p>Bonneville provides the following potential revision:</p> <p>“...to the extent that they exceed the Competitive LMP plus the Competitive LMP Parameter at the resource’s Location for the DAM or RTM process interval for which the MPM process applies, will be mitigated to the higher of the resource’s Default Energy Bid, as specified in Section 39, or the Competitive LMP plus the Competitive LMP Parameter at the resource’s Location for the DAM and RTM process interval for which the MPM process applies..”</p>	<p>The CAISO will revise this provision accordingly.</p>



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31.2.3	Southern California Edison	Southern California Edison provides the suggestion to state DAM or RTM process or both given DAM or RTM each has its own MPM.	See the CAISO's response above.
34.1.5.1	Southern California Edison	<p>Southern California Edison suggests the removal of "to be" as a clean-up to the language.</p> <p>Southern California Edison provides the following suggested edit:</p> <p>"Bids from resources comprised of multiple technologies that include Non-Generator Resources will remain to be subject to all applicable market power mitigation under the CAISO Tariff, including Local Market Power Mitigation."</p>	The CAISO will revise this provision accordingly.
34.1.5.2	Powerex	<p>Powerex provides the following suggested edit:</p> <p>"If a Bid is mitigated in the MPM process for any fifteen (15) minute interval for a Trading Hour, the mitigated Bid will be utilized in the RTM process for that first fifteen (15) minute interval. "</p>	The CAISO will revise this provision accordingly.
34.1.5.3	Idaho Power Company	Idaho Power Company comments that the sentence being added, and particularly reference to "these intervals," is unclear. Idaho Power Company requests the CAISO to clarify the sentence and explain what intervals are being referred to.	<p>The CAISO will provide an explanation of this provision during the tariff meeting. The CAISO also proposes to clarify that sentence as follows:</p> <p>The RTD MPM process is performed for <u>a configurable number of RTD</u> each advisory intervals within a configurable time frame from <u>after</u> the binding RTD interval, to mitigate Bids used in and the mitigated Bids are used in the corresponding RTD, <u>the following RTD for these intervals.</u></p>



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34.1.5.3	Seattle City Light	Seattle City Light requests clarification of the term “configurable” as it relates to the timing of the Real-Time Dispatch Market Power Mitigation process.	See the CAISO’s response above.
34.1.5.5	Bonneville Power Administration	<p>Bonneville notes that there is language that incorrectly suggests that the Competitive LMP Parameter may be used to create price separation between the DAM and RTM markets. Bonneville notes that the price separation should be created between the area where mitigation applies and the areas where mitigation does not apply.</p> <p>Bonneville suggests the following potential revision:</p> <p>“...The CAISO will set the Competitive LMP Parameter as low as possible while reasonably creating price separation in the DAM and RTM process between the area where mitigation applies and other areas where mitigation does not apply.”</p>	<p>The CAISO will revise this provision as follows:</p> <p>When a Bid is mitigated, the CAISO will add a cost, not to exceed \$0.01/<u>MWh</u>, to the Competitive LMP used in the MPM process prior to the DAM or and RTM process. The CAISO will set the Competitive LMP Parameter as low as possible while reasonably creating <u>a reasonable</u> price separation in the DAM and RTM process between the area where mitigation applies and other areas where mitigation does not apply. The CAISO will publish the value of the Competitive LMP Parameter in the Business Practice Manual.</p>
34.1.5.5	Idaho Power Company	Idaho Power Company requests that the CAISO clarify which Business Practice Manual is being referenced.	The CAISO does not reference specific BPMs in the broader CAISO tariff.
34.1.5.5	Seattle City Light	Seattle City Light states that it believes the max competitive LMP parameter, as described in the final LMPM proposal, should be set at \$.10 not \$.01.	The CAISO believes that establishing the ceiling as low as possible while achieving the price separation objective is beneficial for all market participants. Indeed, a prior stakeholder process referenced a \$0.10 with respect to the inclusion of an EIM transfer schedule cost, which was later reduced in the subsequent FERC proceeding to \$0.01. Lowering the ceiling now will benefit market participants and potentially avoid concerns that FERC may have in adding a larger cost to the competitive LMP. This was clarified



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			by the CAISO in the draft final proposal stakeholder comment matrix.
34.1.5.5	Southern California Edison	<p>Southern California Edison suggests changing the language to reflect \$0.01/MWh as the adder to the LMP (\$/MWh).</p> <p>Southern California Edison provides the following suggested edit:</p> <p>“When a Bid is mitigated, the CAISO will add a cost, not to exceed \$0.01/MWh, to the Competitive LMP used in the MPM process prior to the DAM and RTM process.”</p>	See the CAISO’s response above.
39.7.1.7	Powerex	<p>Powerex is proposing revisions to the draft tariff language that are designed to further clarify the calculation of the hydro DEB in a manner consistent with the draft final proposal.</p> <p>Powerex provides the following proposed edits:</p> <p>“Scheduling Coordinators may request a Hydro Default Energy Bid for <u>a</u> hydro resources with storage capability located in the CAISO Balancing Authority Area or any EIM Entity Balancing Authority Area <u>that is subject to bid mitigation.</u>”</p>	<p>The CAISO will not accept the proposal to include the “<u>that is subject to bid mitigation</u>” because resources that are not subject to mitigation may also require a DEB. For example, an EIM non-participating resource may require a DEB if used in the ABC process.</p> <p>The CAISO will accept the following changes:</p> <p>“Scheduling Coordinators may request a Hydro Default Energy Bid for <u>a</u> hydro resources with storage capability...”</p>
39.7.1.7.1	Bonneville Power Administration	<p>Bonneville states that the word “and” should be used instead of “or.”</p> <p>Bonneville provides the following potential revision:</p> <p>“...The CAISO will calculate the Hydro Default Energy Bid as the maximum of the gas floor, the short-term component, and</p>	The CAISO will make this change.



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		the long-term/geographic component...”	
39.7.1.7.1	Idaho Power Company	<p>Idaho Power Company suggests adding (a), (b), and (c) to provide additional to the sentence. Idaho Power Company suggests that the sentence be structured as follows:</p> <p>“39.7.1.7.1 Computation</p> <p>The CAISO will calculate the Hydro Default Energy Bid as the maximum of (a) the gas floor, (b) the short-term component or (c) the long-term/geographic component as specified in the subsections below.”</p>	<p>The CAISO will accept the change and make the following clarifications</p> <p>39.7.1.7.1 Computation</p> <p><u>For each Trading Day, t</u>The CAISO will calculate the Hydro Default Energy Bid as the maximum of the (a) gas floor, the(b) short-term component, or <u>and</u> (c) the long-term/geographic component, as specified in the subsections below.</p>
39.7.1.7.1	Powerex	<p>Powerex suggests the following suggested edits:</p> <p><u>“For each Trading Day, T</u>he CAISO will calculate the Hydro Default Energy Bid as the maximum of the gas floor, the short-term component or <u>and</u> the long-term/geographic component as specified in the subsections below.”</p>	The CAISO accepts the change. See above.
39.7.1.7.1.1	Idaho Power Company	<p>Idaho Power Company comments that the description of the average heat rate for a typical peaking gas resource should include a reference to the source that the CAISO will use for the data. Idaho Power Company suggests the following edits:</p> <p>“39.7.1.7.1.1 Gas Floor</p> <p>The CAISO will calculate the gas floor as the average heat rate for a typical peaking gas resource, <u>obtained from the Energy Information Administration for the most recent year available</u>, multiplied by the gas price for the fuel region applicable for the</p>	<p>The CAISO proposes the following clarification:</p> <p>39.7.1.7.1.1 Gas Floor</p> <p>The CAISO will calculate the gas floor as the average heat rate for a typical peaking gas turbine generator resource, multiplied by the gas price for the fuel region applicable <u>to</u> for the location of the hydro resource, multiplied by 1.1. The heat rate used will be the most recent average heat for gas turbine resources as cited by the Energy Information Agency <u>Administration</u>.”</p>



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		location of the hydro resource, multiplied by 1.1. The heat rate used will be the most recent average heat for gas turbine resources as cited by the Energy Information Agency.”	
39.7.1.7.1.1	Powerex	Powerex provides the following suggested edits: “The CAISO will calculate the gas floor as the average <u>tested</u> heat rate for a typical peaking gas <u>turbine</u> resource, <u>as published by the Energy Information Administration (EIA)</u> , multiplied by the gas price for the fuel region applicable for the location of the hydro resource, multiplied by 1.1.”	See the CAISO’s response above.
39.7.1.7.1.1	Seattle City Light	Seattle City Light recommends that CAISO add language that clarifies the heat rate used for the gas price floor will be the most recent average heat for gas turbine resources as cited by the Energy Information Agency. Seattle City Light states that this was the heat rate source agreed to in the final LMPM proposal.	See the CAISO’s response above.
39.7.1.7.1.2	Bonneville Power Administration	Bonneville suggests itemizing the elements of the Short-Term component for clarity and suggests specifying the on-peak balance of month index and the on-peak monthly index futures price. Bonneville provides the following potential revision: “The CAISO will calculate the short-term component as the maximum of the Day-Ahead peak price at the applicable electric pricing hub, the balance of the month futures	The CAISO accepts the change with the following further clarifications. The CAISO will calculate the short-term component as the maximum of the Day-Ahead peak price at the applicable electric pricing hub, the balance of the month futures prices for the current month at the applicable electric pricing hub, and the monthly index futures price at the applicable electric pricing hub for one (1) month after the current month, multiplied by 1.40 multiplied by the maximum of:



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		<p>prices for the current month at the applicable electric pricing hub, and the monthly index futures price at the applicable electric pricing hub for one (1) month after the current month, multiplied by 1.40 multiplied by the maximum of:</p> <p>A. <u>the Day-Ahead peak price at the applicable electric pricing hub,</u></p> <p>B. <u>the on-peak balance of the month futures price for the current month at the applicable electric pricing hub, and</u></p> <p>C. <u>the on-peak monthly index futures price at the applicable electric pricing hub for one (1) month after the current month.”</u></p>	<p>A. <u>the day-ahead peak price at the applicable electric pricing hub;</u></p> <p>B. <u>the on-peak balance of the month on peak futures price for the current month at the applicable electric pricing hub; and</u></p> <p>C. <u>the on-peak monthly index on peak futures price at the applicable electric pricing hub for one (1) month after the current month.</u></p>
39.7.1.7.1.2	Powerex	<p>Powerex provides the following suggested edits:</p> <p>“The CAISO will calculate the short-term component as the maximum of the Day-Ahead <u>on-peak</u> price at the applicable electric pricing hub<u>Default Trading Hub</u>, the balance of the month <u>on-peak</u> futures prices for the current month at the applicable electric pricing hub, and the monthly index <u>on-peak</u> futures price at the applicable electric pricing hub<u>Default Trading Hub</u> for one (1) month after the current month, multiplied by 1.40.”</p>	<p>The CAISO proposes to modify Section 39.7.1.7.3 to refer to default electric pricing hubs. The CAISO accepts the other clarifications. See above.</p>
39.7.1.7.1.2	Southern California Edison	<p>Southern California Edison asks if the term “Day-Ahead” should be lower case because the term “Day-Ahead” is a defined term in the CAISO tariff and implies it is a CAISO-generated price.</p>	<p>The CAISO accepts this change. See above.</p>



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39.7.1.7.1.3	Bonneville Power Administration	<p>Bonneville suggests itemizing the elements of the Long-Term/Geographic Component for clarity and suggests specifying the on-peak balance of month index and the on-peak monthly index futures prices.</p> <p>Bonneville provides the following potential revision:</p> <p>“The CAISO will calculate the long-term/geographic component as <u>1.1 multiplied by</u> the maximum of:</p> <p><u>A.</u> the Day-Ahead peak price at the applicable electric pricing hub,</p> <p><u>B.</u> the <u>on-peak</u> balance of the month futures prices for the current month at the applicable electric pricing hub,</p> <p><u>C.</u> and the <u>on-peak</u> monthly index futures price at the applicable electric pricing hub for future months up to the maximum storage horizon after the current month, <u>multiplied by 1.1.</u>”</p>	<p>The CAISO accepts this change with the following clarifications:</p> <p>The CAISO will calculate the long-term/geographic component as <u>1.1 multiplied by</u> the maximum of:</p> <p><u>A.</u> the Day-Ahead <u>on-peak</u> price at the applicable electric pricing hub(s);</p> <p><u>B.</u> the <u>on-peak</u> balance of the month futures prices for the current month at the applicable electric pricing hub(s);</p> <p><u>C.</u> and the <u>on-peak</u> monthly index futures price at the applicable electric pricing hub(s) for <u>all</u> future months up to the maximum storage horizon after the current month, multiplied by 1.1.</p> <p><u>A Scheduling Coordinator may request that the long-term/geographic component be calculated based on multiple electric pricing hubs in accordance with Section 39.7.1.7.2.1.</u></p> <p>The CAISO specified in the Draft Final Proposal that the applicable day-ahead price would be on-peak. It is appropriate to pick the on-peak price because the default hydro bid should reflect the opportunity cost that is likely to arise and because on-peak prices are likely to be the highest, if we chose off-peak prices, the Hydro Default Energy Bid would not sufficiently cover those critical hours. This same principle applies to the balance of the month and monthly price. The CAISO erroneously did not specify the on-peak reference for all of the components in the equation on page 35 of the Draft Final Proposal, but it had intended to apply the same logic all prices equally.</p>



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39.7.1.7.1.3	Powerex	<p>Powerex provides the following suggested edits:</p> <p>“The CAISO will calculate the long-term/geographic component as the maximum of the Day-Ahead <u>on-peak</u> price at the applicable electric pricing hub, the balance of the month <u>on-peak</u> futures prices for the current month at the applicable electric pricing hub, and the monthly index-on-peak futures price at the applicable electric pricing hub for <u>all</u> future months up to the maximum storage horizon after the current month, multiplied by 1.1.”</p>	The CAISO accepts this change. See above.
39.7.1.7.2.	Powerex	<p>Powerex provides the following suggested edits:</p> <p>“As part of its request for a Hydro Default Energy Bid, the Scheduling Coordinator must submit <u>the following information</u> to the CAISO...”</p>	The CAISO accepts this change.
39.7.1.7.2.1	Powerex	<p>Powerex states that Section 39.7.1.7.2.1 states that a Scheduling Coordinators must make an annual demonstration that they have firm transmission rights and/or a historical practice of purchasing firm transmission rights to a given electric pricing hub.</p> <p>Powerex comments that in order to take into account the fact that the transmission reservations currently held or historically acquired by a market participant may vary over the course of the year, Powerex requests clarification that Scheduling Coordinators that make such a submission may provide a month-by-month breakdown</p>	<p>The CAISO will clarify as follows:</p> <p>Annually, <u>and for each electric pricing hub requested that is not the default electric pricing hub</u>, the Scheduling Coordinator must (1) demonstrate that (1) they have <u>it holds annual purchased</u> firm transmission rights <u>to enable delivery</u> from the hydro resource’s <u>default market region location</u> to the requested electric pricing hub or to hubs or a delivery point that is <u>represented by similarly priced location</u>; similarly priced location or (2) provide documentation that supports a historical practice of purchasing <u>qualifying monthly</u> firm transmission rights <u>for the annual period to the requested electric pricing hub(s) or similarly priced location</u>. Scheduling</p>



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		<p>of their transmission rights to relevant electric pricing hubs.</p> <p>Powerex believes that allowing Scheduling Coordinators to submit a showing that includes monthly transmission availability strikes an appropriate balance between ensuring that the DEB represents the opportunity costs of a resource while limiting the additional data collection and computational burden imposed on the CAISO.</p>	<p>Coordinators may demonstrate transmission rights to multiple locations and, based on the CAISO's evaluation of such information, the CAISO may include multiple electric pricing hubs, <u>in addition to the default electric pricing hubs</u>, in the long-term/geographic component of the Hydro Default Energy Bid for the affected resources. The Scheduling Coordinator must attest in <u>its their</u> submission that <u>it reasonably expects it they</u> will use <u>the demonstrated the full quantity of the</u> transmission rights to deliver incremental sales from the hydro resource.</p> <p><u>If the CAISO includes multiple electric pricing hubs in the long-term/geographic component, the Hydro Default Energy Bid calculation will use the maximum of the electric pricing hub as determined each Trading Day. On Trading Days for which there are no relevant published electric price indices at an electric pricing hub, the CAISO will use the most recently published index for the applicable electric pricing hub.</u></p>
39.7.1.7.2.1	Powerex	<p>Powerex provides the following suggested edits:</p> <p><u>“39.7.1.7.2.1 Transmission Rights Showing for Multiple Electric Pricing Hubs in Long-Term/Geographic Component</u></p> <p><u>A Scheduling Coordinator may request that the long-term/geographic component be calculated based on multiple electric pricing hubs (in addition to the Default Trading Hub) to the extent the Scheduling Coordinator demonstrates that it has transmission rights to each of the requested additional electric</u></p>	<p>The CAISO accepts this additional requirement with further clarifications to Section 39.7.1.7.1.3. See above.</p>



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		<u>pricing hubs consistent with this section.</u> "	
39.7.1.7.2.1(a)	Bonneville Power Administration	<p>Bonneville requests clarity on the intention of this sentence. If the intent is to stress that the source of incremental sales should be the hydro resource, and not, say, market purchases, then Bonneville suggests including language to that effect. As written, the language is somewhat discordant with the concept of opportunity cost, since, if a seller uses the full quantity of its transmission rights to non-default locations, the price at those locations, by definition, cannot represent an opportunity cost. In addition, the use of the term "full quantity of the transmission rights" seems to imply that all available transmission must be used to support the incremental sale. BPA seeks clarity that the specific quantity of transmission must match or be greater than the incremental sales.</p> <p>Bonneville suggests striking the following sentence:</p> <p>(a) "...The Scheduling Coordinator must attest in their submission that they will use the full quantity of the transmission rights to deliver incremental sales from the hydro resource."</p>	The CAISO will clarify this section. See above.
39.7.1.7.2.1(a)	Idaho Power Company	<p>Idaho Power Company suggests minor edits to provide clarity. The proposed edits are as follows:</p> <p>"Annually the Scheduling Coordinator must (1) demonstrate that (1) they have it has purchased firm transmission rights from the hydro resource location to the requested</p>	The CAISO accepts this change with further clarifications. See above.



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		electric pricing hub or hubs or a similarly priced location, or..."	
39.7.1.7.2.1(a)	Idaho Power Company	<p>Idaho Power Company suggests deleting the word "qualify" because it introduces ambiguity. Idaho Power Company also asks what are qualifying rights. Idaho Power Company suggests the following edits to mirror the language from (1) to make it clear that the historical rights demonstrated may also be available to the hub(s) or similarly priced locations.</p> <p>"...(2) provide documentation that supports a historical practice of purchasing qualifying firm transmission rights <u>to the requested pricing hub or hubs or similarly priced location.</u>"</p>	The CAISO accepts this change. See above.
39.7.1.7.2.1(a)	Idaho Power Company	<p>Idaho Power Company comments that the intent of the attestation regarding the use of the full quantity of transmission rights to deliver incremental sales is unclear. Idaho Power Company states that the language does not seem to be supported by the draft final proposal. Idaho Power Company provides the following suggested edits:</p> <p>"The Scheduling Coordinator must attest in their <u>its</u> submission that they <u>it</u> will use the full quantity of the transmission rights to deliver incremental sales from the hydro resource."</p>	The CAISO accepts this change. See above.
39.7.1.7.2.1(a)	Idaho Power Company	Idaho Power Company comments that the CAISO tariff should address how the multiple hubs would be used if there is sufficient transmission. Idaho Power Company suggests adding a sentence based on the	The CAISO accepts this change. See above.



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		<p>draft final proposal in order to clarify this important point.</p> <p>Idaho Power Company provides the following proposed edits:</p> <p>“...sales from the hydro resources. <u>If CAISO includes multiple electric pricing hubs in the long-term/geographic component, the Hydro Default Energy Bid calculation will use the maximum of the values for each hub as determined each day.</u>”</p>	
39.7.1.7.2.1(a)	Powerex	<p>Powerex comments that under Section 39.7.1.7.2.1(a), a Scheduling Coordinator seeking to add an electric pricing hub to the list of hubs that will be included in the calculation of the long-term component of its DEB must attest that it “will use the full quantity of the transmission rights to deliver incremental sales from the hydro resource.” Powerex believes that this language must be modified, in keeping with feedback in the stakeholder process, to only require that a Scheduling Coordinator attest that it “reasonably expects to use the demonstrated transmission rights to deliver incremental sales from the hydro resource.” Powerex notes that as was discussed during the stakeholder process, hydro resources with storage have limited energy and must make trade-offs between many market opportunities, including selling limited supply during the highest priced hours and days and at the highest priced locations.</p> <p>Powerex states that as a practical matter, it is thus not feasible that an entity would use</p>	The CAISO accepts the proposed change. See above.



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		<p>all of its transmission rights to deliver its hydro energy to every location to which it has transmission rights during each and every hour of the year.</p> <p>Powerex therefore believes that any attestation requirement should only require that the Scheduling Coordinator affirm that the relevant transmission rights are reasonably expected to enable potential market opportunities for the resource during the applicable year.</p>	
39.7.1.7.2.1(a)	Powerex	<p>Powerex provides the following suggested edits:</p> <p>“(a) Annually, <u>and for each electric pricing hub requested that is not the Default Trading Hub</u>, the Scheduling Coordinator must demonstrate that (1) they have purchased-hold firm transmission rights <u>to enable delivery</u> from the hydro resource’s default market region-location to the requested electric pricing hub or hubs or to a <u>similarly priced location-delivery point that is represented by such pricing hub</u>, or (2) provide documentation that supports a historical practice of purchasing qualifying firm transmission rights. Scheduling Coordinators may demonstrate transmission rights to multiple locations and, based on the CAISO’s evaluation of such information, the CAISO may include multiple-additional electric pricing hubs <u>(in addition to the Default Trading Hubs specified in Section 39.7.1.7.3)</u> in the long-term/geographic component of the Hydro Default Energy Bid for the affected resources. The Scheduling</p>	The CAISO accepts this change with further clarifications. See above.



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		Coordinator must attest in their <u>its</u> submission that they will <u>it reasonably expects to</u> use the full quantity of the <u>demonstrated</u> transmission rights to deliver incremental sales from the hydro resource.”	
39.7.1.7.2.1(a)	Six Cities	Six Cities states that the basis for the last sentence of the sub-section is not clear. Six Cities requests that the Cg AISO please explain the reason for the proposed requirement that the full quantity of transmission rights must be used to deliver incremental sales from the hydro resource.	See clarification provided above.
39.7.1.7.2.1(b)	Bonneville Power Administration	<p>Bonneville interprets this passage to mean that the transmission rights portfolios of participants be employed (in calculating the appropriate proportional weights) in calculation of the weighted average price of the bilateral trading hubs. Further, the term “capacity” may have different practical meaning for hydro resources that are energy limited than it does for thermal resources. Bonneville requests clarifying language that distinguishes between “energy limited hydro generation” and a more traditional usage of the term capacity.</p> <p>Bonneville suggests the following potential revisions:</p> <p>“For resources with less firm transmission rights than the resource’s capacity, the CAISO will use a proportional weighting of <u>the resource’s transmission rights to calculate a weighted average of</u> those bilateral <u>trading hub</u> prices...”</p>	<p>The CAISO accepts this change with further clarifications.</p> <p>(b) For resources <u>that demonstrates a quantity of firm transmission rights to a requested pricing hub or similarly priced location that is less than the hydro resource’s capacity</u>, the CAISO will <u>include the requested electric pricing hub up to the quantity demonstrated transmission rights, and apply use</u> a proportional weighting of <u>the resource’s transmission rights to calculate a weighted average of</u> those bilateral <u>electric pricing hub</u> prices when calculating <u>the values of</u> in the long-term/geographic component of the Hydro Default Energy Bid.</p>



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
39.7.1.7.2.1(b)	Idaho Power Company	<p>Idaho Power Company comments that the word “fewer” would be more clear in the context of that sentence as opposed to “less.”</p> <p>Idaho Power Company provides the following proposed edit:</p> <p>“For resources with less-fewer firm transmission rights than the resource’s capacity, the CAISO will use a proportional weighting of those bilateral prices when calculating values in the long-term/geographic component of the Hydro Default Energy Bid.”</p>	The CAISO accepts the proposed changes with further clarifications. See above.
39.7.1.7.2.1(b)	Powerex	<p>Powerex provides the following proposed edits:</p> <p>“(b) For resources with less that <u>demonstrate a quantity of</u> firm transmission rights <u>to a requested electric pricing hub that is less</u> than the <u>hydro</u> resource’s capacity, the CAISO will use-include the requested <u>electric pricing hub up to the quantity of demonstrated transmission rights, and apply</u> a proportional weighting of those bilateral the <u>electric pricing hub</u> prices when calculating <u>the values of in</u> the long-term/geographic component of the Hydro Default Energy Bid.”</p>	The CAISO accepts the proposed changes. See above.
39.7.1.7.2.1(c)	Powerex	<p>Powerex provides the following proposed edits:</p> <p>“(c) In the absence of supporting transmission rights information when calculating the Hydro Default Energy Bid, the CAISO will revert to the dDefault bilateral <u>electric pricing Trading hHub</u> specified in</p>	The CAISO proposes to use the term “electric pricing hub” instead of “Default Trading Hub.”



Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		Section 39.7.1.7.3.”	
39.7.1.7.2.1(f)	Idaho Power Company	<p>Idaho Power Company notes that the term “electric pricing hub” has been used throughout the draft tariff language as opposed to “Trading Hubs.” Idaho Power Company suggests using one term throughout the tariff to provide clarity.</p> <p>Idaho Power Company goes on to note that the definition of “Trading Hub” is a defined term in the CAISO tariff and is defined as “An aggregation of network Pricing Nodes, such as Existing Zone Generation Trading Hubs, maintained and calculated by the CAISO for settlement and trading purposes posted by the CAISO on its CAISO Website.”</p> <p>Idaho Power Company states that “electric pricing hub” seems more appropriate in this context, since the default hubs include Mid-C and Palo Verde, which to Idaho Power Company’s understanding are not “maintained and calculated by CAISO”, as the term Trading Hub is defined in CAISO’s tariff.</p> <p>Idaho Power Company provides the following suggested edits:</p> <p>“If the CAISO determines the Scheduling Coordinator has submitted inaccurate information, the CAISO may revert the resource to the default Trading Hubs <u>electric pricing hubs</u> as specified in Section 39.7.1.7.3.”</p>	The CAISO agrees. The CAISO will clarify and use the term “electric pricing hub” throughout the tariff.



Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
39.7.1.7.2.1(c)	Powerex	Powerex provides the following proposed edits: “(f) If the CAISO determines the Scheduling Coordinator has submitted inaccurate information, the CAISO may revert the resource to the e Default Trading Hubs s as specified in Section 39.7.1.7.3.”	See the CAISO’s response above.
39.7.1.7.2.2(a)	Idaho Power Company	Idaho Power Company suggests deleting the word “typical” because it seems inconsistent with how the storage horizon is described in the draft final proposal. Idaho Power Company provides the following suggested edits” “Reflect the typical storage duration of a hydro resource’s reservoir, defined as the length of time when cycling from its maximum reservoir elevation to a new maximum reservoir elevation during typical hydro year, and should be computed comparing historic reservoir elevations for multiple years for the hydro resource and observing typical cycling times for the hydro resource.”	The CAISO accepts the change with further clarifications. (a) Reflect the typical storage duration of a hydro resource’s reservoir, defined as the length of time <u>between which the reservoir cycles from a when cycling from its maximum reservoir elevation to a new maximum reservoir elevation during a typical hydro cycle. The Scheduling Coordinator shall year and should be compute the reservoir’s cycling time based on dcomparing historic reservoir elevations fmultiple years of reservoir elevation data_ for the hydro resource and observing cycling times for the hydro resource.</u>
39.7.1.7.2.2(a)	Powerex	Powerex provides the following proposed edits: “(a) Reflect the typical <u>typical maximum</u> storage duration of a hydro resource’s reservoir, defined as the length of time when cycling from its maximum reservoir elevation to a new maximum reservoir elevation during typical <u>a</u> hydro year, and should be computed comparing historic reservoir elevations for multiple years for the hydro	The CAISO partially accepts this change. See above.



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		resource and observing typical cycling times for the hydro resource.”	
39.7.1.7.2.2(a)	Six Cities	Six Cities comments that as included in the draft, the subsection number appears to be out of sequence. Six Cities states that it appears the sub-section number should be 39.7.1.7.2.2(a).	The CAISO accepts this change. The CAISO will further verify all the numbering.
39.7.1.7.2.2(a)	Six Cities	Six Cities provides the following suggested edit: “(a) Reflect the typical storage duration of a hydro resource’s reservoir, defined as the length of time when cycling from its maximum reservoir elevation to a new maximum reservoir elevation during <u>a</u> typical hydro year, and should be computed comparing historic reservoir elevations for multiple years for the hydro resource and observing typical cycling times for the hydro resource.”	See the CAISO’s response above.
39.7.1.7.2.2(b)	Bonneville Power Administration	Bonneville states that as the language is written, it is somewhat unclear what “legally” is referring to. Bonneville suggests changing “that can legally” to “who has authority to” to clarify. Bonneville suggests the following potential revisions: “Be supported by (1) a written attestation by a representative who has the authority to that can legally bind the company stating that the value submitted to the CAISO as the maximum storage horizon is consistent with the requirements specified in this section 39.7.1.7.2 (b), or (2) corroborating	The CAISO accepts this change with further clarifications. “(b) Be supported by (1) a written attestation by a representative who has the authority to that can legally bind the company stating that the value submitted to the CAISO as the maximum storage horizon is consistent with the requirements specified in this s Section 39.7.1.7.2(ba); or (2) corroborating information submitted to the CAISO, which may include several years of historic reservoir levels for the specific hydro resource and regulatory filings related to the operations of the hydro resource.”



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		information submitted to the CAISO, which may include several years of historic reservoir levels for the specific hydro resource and regulatory filings related to the operations of the hydro resource.”	
39.7.1.7.2.2(b)	Idaho Power Company	<p>Idaho Power Company comments that it appears that the reference should be to subsection (a) since subsection (b) does not describe the requirements given that (a) does.</p> <p>Idaho Power Company provides the following suggested edits:</p> <p>“Be supported by (1) a written attestation by a representative that can legally bind the company stating that the value submitted to the CAISO as the maximum storage horizon is consistent with the requirements specified in this section 39.7.1.7.2(ba), or...”</p>	The CAISO accepts this change with further clarifications. See above.
39.7.1.7.3	Idaho Power Company	<p>Idaho Power Company suggests using “electric pricing hubs” for consistency, as opposed to “Trading Hubs.” Idaho Power Company also suggests revising the sentence to provide greater clarity and to avoid using the term “hydro resource area,” which is unclear.</p> <p>Idaho Power Company provides the following proposed edits:</p> <p>“The default Trading Hubs electric pricing hubs are as followsfor each hydro resource area shall be designated as:”</p>	<p>The CAISO agrees. The CAISO will further provide that the default electric pricing hubs in the business practice manuals.</p> <p>39.7.1.7.3 Default <u>Electric Pricing Trading Hubs</u></p> <p>The default <u>electric pricing hubs will be as specified in the Business Practice Manuals, which will also include a process for modifying or adding electric pricing hubs to the list of default electric pricing hubs. Trading Hubs for each hydro resource area shall be designated as:</u></p> <p>(a) — PacifiCorp West, Portland, Powerex, Puget Sound will be in the Mid-Columbia Trading Hub.</p>



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
			<p>(b) — Arizona, Idaho, PacifiCorp East, NV Energy will be in the Palo Verde.</p> <p>(c) — Northern California will be in the North-of-path 15.</p> <p>(d) — Southern California will be in the South-of-path 15.</p>
39.7.1.7.3	Powerex	Powerex suggests modifying Section 39.7.1.7.3 to expressly identify the Alberta hub as an electric pricing hub that is available to storage hydro resources. In order to avoid the need to update this tariff language as new market participants are added to the EIM, Powerex also recommends modifying Section 39.7.1.7.3 to provide that the Default Trading Hub and any additional electric pricing hubs approved for a given hydro resource will be set out in the CAISO's Master File.	The CAISO will modify the tariff to specify that eligible and default electric pricing hubs will be specified in the business practice manuals.
39.7.1.7.3	Powerex	<p>Powerex provides the following suggested edits:</p> <p><u>39.7.1.7.3 Default Trading Eligible Hubs</u></p> <p><u>A Scheduling Coordinator may elect one or more of the following as a The dDefault Trading Hubs for each hydro resource area shall be designated as:</u></p> <p>(a) — PacifiCorp West, Portland, Powerex, Puget Sound will be in the or electric pricing hub: Mid-Columbia Trading Hub;</p> <p>(b) — Arizona, Idaho, PacifiCorp East, NV Energy will be in the Alberta; Palo Verde-</p> <p>(c) — Northern California will be in the;</p>	See the CAISO's proposed changes above.



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		North-of-path 15; and - (d) — Southern California will be in the South-of-path 15. Each resource's Default Trading Hub and any approved electric pricing hubs shall be reflected in the CAISO's Master File for the relevant resource.	
39.7.1.7.3	Seattle City Light	Seattle City Light recommends that CAISO add language that clarifies the process for establishing default trading hubs when additional BAAs are added to the EIM market and the process for revising the assigned default trading hub.	See the CAISO's proposed changes above.
39.7.1.7.3	Six Cities	Six Cities comments that in sub-sections (a) through (d), use of the phrase "in the" is confusing. Six Cities suggest deleting "in the" from all sub-sections.	See the CAISO's proposed changes above.
39.7.1.7.3(a)-(b)	Idaho Power Company	Idaho Power Company comments that it believes Mid-C is a more appropriate default electric pricing hub as that is the hub which prices at its points approximate most of the year. Idaho Power Company does, in certain times of year, sell at locations on its system that has prices that approximate Palo Verde . But, Idaho Power Company notes that it sells at prices more like Mid-C during the majority of the year. Idaho Power Company provides the following suggested edits: “(a) <u>Idaho Power Company</u> , PacifiCorp West, Portland <u>General Electric</u> , Powerex, <u>and</u> Puget Sound <u>Energy</u> will be in the Mid-Columbia <u>Trading Hub</u> electric pricing hub. (b) <u>Arizona Public Service Company</u> ,	The CAISO will consider this further through the BPM process. However, the CAISO believes the default electric price hubs should be established based on which hub is most reflective of pricing in the entity's geographic area. The BPM will also have a process through which the entity may demonstrate eligibility for other hubs in their long-term/geographic component.



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		Idaho , PacifiCorp East, and NV Energy will issue be in the Palo Verde <u>electric pricing hub</u> .”	
39.7.1.7.3(c)-(d)	Idaho Power Company	<p>Idaho Power Company suggests for adding either “Trading Hub” or “electric pricing hub” to the end of (c) and (d); however, it is unclear which term would be more appropriate. Idaho Power Company makes this suggestion in order to provide consistency.</p> <p>Idaho Power Company provides the following proposed edits:</p> <p>“(c) Northern California will be <u>issue</u> in the North-of-path 15.</p> <p>(d) Southern California will be <u>issue</u> in the South-of-path 15.”</p>	See the CAISO’s proposed changes above.
39.7.1.7.3(c)-(d)	Southern California Edison	<p>Southern California Edison comments that while Section 39.7.1.7.2.1(c) provides internal resources (as well as external resources) do not need to provide supporting transmission rights to be mapped to the resource’s Default Trading Hub. Southern California Edison suggests that for an internal resource, the determination of its Default Trading Hub should be one that the resource is electrically close. Southern California Edison provides the example that the Default Trading Hub for Big Creek should be SP15 rather than NP15. Southern California Edison goes on to state that for this reason, changes to these subsections are needed for clarity.</p>	See the CAISO’s proposed changes above.



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Tariff Section	Stakeholder	Stakeholder Comment	CAISO Response
		<p>Southern California Edison provides the following suggested edits:</p> <p>(c) <u>the North-of-path 15 for Northern California</u> will be in the North-of-path 15 <u>unless the resource is electrically closer to the South-of-path 15 under which it will be the South-of-path 15.</u></p> <p>(d) <u>the South-of-path 15 for Southern California</u> will be in the South-of-path 15 <u>unless the resource is electrically closer to the North-of-path 15 under which it will be North-of-path 15."</u></p>	
Appendix A - Hydro Default Energy Bid	Southern California Edison	Southern California Edison suggests to change this term to something more specific, such as Hydro With Storage Capability Default Energy Bid.	The suggested term is too long. The definition specifies a resource is not eligible for this default energy bid if they do not have storage capability.