

## Metering Rules Enhancements Stakeholder Comment Matrix — Issue Paper & Straw Proposal

<u>Topic</u>	<u>Market Participant</u>	<u>Comment</u>	<u>ISO Response</u>
No required changes to existing metered entities. This first element of the ISO proposal provides existing metered entities the option to either retain current requirements and maintain their status quo, or instead to opt for elements 2 and 3 (allow SCs to submit SQMD for all resources represented and submit an SQMD Plan, respectively).	PG&E	Regarding existing metered entities, PG&E is in agreement with the ISO that the new options being proposed should not negatively impact those resources.	ISO agrees.
	SCE	SCE supports that existing metered entities can continue to maintain compliance with the current equipment and SCME requirements. Resources that are operating under an exemption should be required to comply with either the old SCME or the new tariff.	ISO appreciates the support for its proposal. An existing ISOME possessing an exemption from metering requirements may continue or opt to become an SCME. If this ISOME opts to become an SCME, then what was a meter exemption under ISOME must be documented in the SQMD Plan.
	PacifiCorp	PacifiCorp supports the proposal outlined in section 4.1 of the straw proposal which will allow current SCME’s or ISOME’s to maintain existing compliance for metering requirements. PacifiCorp agrees with this proposal, which will not impose additional metering requirements and potential costs if they remain as their current ISOME/SCME standing, but will give them the flexibility to change based on proposed rules.	ISO appreciates the expression of support.
	NRG	NRG supports this proposal.	ISO appreciates the support.

	Six Cities	The Six Cities support this aspect of the ISO’s proposal.	ISO appreciates the support.
Allowing SCs the option to submit SQMD for all resources represented.	PG&E	<p>PG&amp;E recommends that the ISO focus on ensuring that the proposed SQMD Plan and the existing SQMD Self Audit requirements provide clear governance and guidance for all SCs and metering entities to preserve an accurate and timely market settlement process.</p> <p>Regarding the new SCME options, PG&amp;E has the following clarification requests and questions (<i>note: the ISO has numbered these items for clarity</i>):</p> <p>(1) What specific controls or checks will the CAISO have in place to ensure metering and settlement accuracy beyond the typical tracking of unaccounted for energy (“UFE”).</p> <p>(2) Will the CAISO have any size restrictions (minimum or maximum) for resources which choose the SCME path?</p> <p>(3) If the path of SCME is chosen for a resource, please confirm that the Meter Service Agreement (MSA) will be signed by the resource owner as it is currently for an ISO metered entity (ISOME).</p> <p>(4) Please clarify whether all meter installation and maintenance requirements will continue to be the responsibility of the resource owner, similar to ISOMEs in [tariff] section 10.2.2, under the new options.</p> <p>(5) Please clarify whether an SCME will be required to follow current CAISO tariff</p>	<p>The ISO agrees that the accuracy and integrity of meter data for market settlements must be maintained. To reiterate, the intent of the ISO proposal is to provide market participants with metering flexibility while continuing to maintain the high level of meter data accuracy and integrity that exists today. The ISO appreciates PG&amp;E’s questions and provides its responses below.</p> <p>(1) Besides current UFE practices, the ISO will continue to utilize existing controls such as audit and testing of the metering facilities and data handling and processing procedures of SCs and SCME to ensure that meter data accuracy and integrity is maintained (see ISO tariff section 6.3.2 and Metering BPM section 6.3.2).</p> <p>(2) The ISO is not proposing to impose any size restrictions on SCME. However, existing rules to participate in the ISO market—such as minimum size—would remain unchanged by this proposal.</p> <p>(3) SCME participation will maintain existing SCME metering requirements, which include the execution of an MSA by the SC responsible for providing its SQMD. Only with ISOME must the resource owner (rather than the SC) execute an MSA.</p> <p>(4) All meter installation and maintenance requirements for SCME will be retained. However, relevant information and/or supporting documentation will be required in the SQMD Plan (which is submitted by the SC).</p>

		<p>Section 10.3.2.2 SCME meter submission requirements. It is not clear from the proposal that this requirement will continue to apply.</p> <p>(6) What interval granularity does the CAISO expect for inter-tie/intra-tie resources?</p> <p>(7) Please clarify what is meant by “[f]or aggregated load value of a default load allocation point (DLAP), the SC calculates the SQMD from qualified tie meters and internal generators,” in the 4th proposed meter data processing method, as a new method for load meter submission. Is CAISO willing to accept a calculated value for load from load-serving entities (“LSEs”) as opposed to the current aggregation of customer meter data?</p>	<p>(5) SCMEs will continue to be required to meet meter submission requirements from tariff section 10.3.2 and section 6 of the Metering BPM.</p> <p>(6) The ISO anticipates no metering interval changes from existing requirements/class exemptions stemming from this initiative.</p> <p>(7) Only EIM entities and those ISOME affiliated with MSS and/or electing their own UFE calculation may calculate (i.e., derive) their load used in settlements today. The ISO proposes that it will accept the method approved by the LRA or that which is in an approved method outlined within the SQMD Plan.</p>
	SCE	<p>Allowing the SC to submit SQMD design plans may result in many different metering designs and specifications through-out the CAISO managed grid. This becomes a problem if the resource needs to switch SC as the new SC may not be compatible with the resource’s metering equipment. This becomes a significant problem if the load serving entity (LSE) becomes a default provider of SC services. This would create an unfair cost burden to the LSE to be required to adapt to a one-off configurations. Furthermore situations which would require the transfer of SQMD from the ISO to the SC would also unfairly shift cost to the SC.</p>	<p>The ISO understands the concern and will evaluate the potential for a UDC to become the default SC with unique or incompatible metering configurations. That result seems very unlikely. As explained in section 4.5.4.6 of the ISO tariff, the ISO maintains a list of available SCs for each UDC territory. The UDC is only the SC of last resort. The ISO is unaware of any instance where the UDC’s becoming the SC has been necessary. A market participant without an SC would have myriad other SCs to select from. If this scenario were to occur, the ISO would work with the new SC to determine a method to accomplish the gathering and processing of the meter data to meet the tariff requirements.</p>

		<p>Therefore, becoming a SQMD agent should only be a voluntary option in the ISO tariff.</p>	
	<p>PacifiCorp</p>	<p>PacifiCorp’s biggest concern with the proposed metering rules is in relation to Intraties (UDC to UDC connections) when agreements cannot be made which could result in metering/data integrity issues. During the stakeholder conference call on March 3, 2016 it was mentioned by the ISO that the proposed tariff would put the responsibility on adjacent UDC’s to come to an agreement on metering that is used for SQMD submission at Intratie points. A possible scenario exists where adjacent UDC’s decide to utilize their own independent meter/data for SC submission. This scenario could create data integrity issues when metering data does not align between the two metering sources, which would impact UFE calculations.</p> <p>A recommended solution to this issue would be if the CAISO adopted similar language that NERC uses for interchange metering. Specifically, in NERC’s reliability standards (BAL_005 R12) it requires tie-line metering to emanate from a common agreed upon metering source. If similar tariff language existed that required adjacent UDC’s to come to an agreement where common metering equipment was used, and each stakeholder was provided access to the common meter/data, then discrepancies and disputes would likely be minimized.</p>	<p>The ISO views these two approaches—putting the responsibility on the adjacent UDCs to come to agreement versus having a tariff provision requiring the adjacent UDCs to come to agreement—as potential options for addressing this scenario. The ISO suggests that a third option to address this stakeholder concern would be to not extend the second element of the ISO proposal to those UDCs wishing to obtain their own UFE calculation. To summarize, three possible options to address this stakeholder concern are:</p> <ol style="list-style-type: none"> <li>1. Put the responsibility on the adjacent UDCs to come to agreement on metering used for SQMD submission at UDC-to-UDC intratie points;</li> <li>2. Make it an explicit tariff requirement that adjacent UDCs must come to agreement on metering used for SQMD submission at UDC-to-UDC intratie points; or,</li> <li>3. Require that UDCs that wish to obtain their own UFE calculations are ISOME. Under this third option the ISO would not allow SCs representing such UDCs to submit SQMD.</li> </ol> <p>Rather than settling on any one of these options at this point, the ISO invites stakeholders to express a preference and explain why.</p>

	NRG	NRG supports this proposal.	ISO appreciates the expression of support.
	Six Cities	The Six Cities support this aspect of the ISO’s proposal	ISO appreciates the expression of support.
SQMD Plan	PG&E	<p>PG&amp;E recommends that CAISO provide a standardized form for the proposed SQMD Plan. The SQMD plan should list all mandatory items and optional items to be included and it should be consistent across all SCMEs.</p> <p>Monitoring and accuracy requirements should be consistent with those expected from ISOMEs.</p> <p>PG&amp;E also recommends that the CAISO develop a procedure and timeline expectations for when updates to an SQMD Plan are needed.</p> <p>PG&amp;E would also like clarification on the following (<i>note: the ISO has numbered these items for clarity</i>):</p> <p>(1) Please confirm that it will be the role of the SCME (as opposed to the SC) to test and monitor the metering devices. This would be consistent with expectations for ISOMEs under the current Tariff.</p> <p>(2) The proposed topics for the SQMD Plan do not cover certification of metering devices. Will SCMEs be required to submit a 3rd party meter certification as ISOMEs are?</p> <p>(3) What can SCs expect as a timeline for CAISO review of a SC-submitted SQMD Plan?</p>	<p>The ISO agrees and has developed a draft SQMD Plan for stakeholder consideration as Attachment A to its revised straw proposal. The SQMD Plan will also include supporting template(s) outlining such information to promote overall consistency and to ensure required information is obtained. The CAISO plans to develop and implement clearly defined deliverables and supporting timelines associated with the SQMD Plan.</p> <p>(1) The SCME will still be responsible for testing and monitoring its metering devices. Each SC shall at least annually test the metering facilities of the SCME it represents and self-audit the meter data provided to ensure compliance with all LRA requirements. SCs shall undertake any other actions reasonably necessary to ensure the accuracy and integrity of the SQMD provided by them to the ISO. ISO tariff sections 10.3.10 and Metering BPM section 6.3.1 will continue to apply.</p> <p>(2) The SCME will not be required to submit similar metering documentation required of an ISOME. However, the metering devices will be required to meet existing LRA requirements. If there is no relevant LRA, then the SCME will be required to meet or exceed existing ISOME metering specifications outlined in Metering BPM Attachments A and B and noted within their SQMD Plan.</p> <p>(3) The ISO is suggesting it have 20 business days to review a submitted SQMD Plan. This review would begin upon receipt of a complete SQMD Plan.</p>

		<p>(4) PG&amp;E requests more detail as to when and how CAISO will initiate an audit. For example, establishing a threshold or other guideline that determines when an audit is initiated.</p> <p>(5) What level of detail is required on the SQMD plan, specifically regarding DERP resources and Load resources?</p>	<p>(4) The ISO will reserve the right to perform audits and inspections on the implementation and use of each SQMD Plan. Any SQMD Plan that proves to be inadequate is subject to revision to ensure it produces SQMD. Besides the SQMD Plan, the entity will be required to submit an annual self-assessment where its management will attest to the implementation and adherence to its SQMD Plan. The entity also will be subject to the Rules of Conduct for late or inaccurate meter data.</p> <p>(5) The proposed tariff language associated with the DERP framework is before FERC and has not yet approved by FERC.</p>
	SCE	<p>A SQMD plan by nature will be generic unless the expectation is to have a plan for every resource that may have a non-standard metering configuration. A metering facility design in this case does not seem to add value from a portfolio perspective.</p> <p>Additionally LSE portfolios will have resources in and out of its own territory and would not have the responsibility for meter specification standards. Standardization of at least installation, testing, calibration, maintenance, security, should be considered a benefit for all involved.</p>	<p>The ISO has developed a draft SQMD Plan for stakeholder consideration as Attachment A to its revised straw proposal. SCs will be required to complete and submit a SQMD Plan on behalf of the resources it represents. The SQMD Plan will include a separate SQMD Resource Template capturing all metering components and supporting algorithms that clearly identify the relevant metering configuration associated with any given resource.</p> <p>It is not clear what issue SCE is raising.</p>
	PacifiCorp	<p>PacifiCorp agrees with the proposal to require SC's to submit an SQMD plan for metered resources. PacifiCorp supports the ISO with this element to ensure overall market integrity and accuracy with revenue metered data. PacifiCorp would like further discussion with the ISO and stakeholders on</p>	<p>The ISO has developed a draft SQMD Plan as Attachment A to its revised straw proposal. SCs will be required to complete and submit a SQMD Plan on behalf of the resources it represents. The SQMD Plan will include a separate SQMD Resource Template capturing all metering components and supporting algorithms that</p>

		<p>ways to better define and potentially outline requirements for each topic/section that is required in the SQMD plan. PacifiCorp believes that having more definition and guidelines will aid SC's in supplying quality SQMD plan's which will help protect the overall integrity of the revenue metering data for the market.</p>	<p>clearly identify the relevant metering configuration associated with any given resource.</p>
	<p>NRG</p>	<p>NRG supports the proposed SQMD plan concept. NRG has no other items to offer at this time.</p>	<p>ISO appreciates the expression of support.</p>
	<p>Six cities</p>	<p>(1) It is important to the Cities that Market Participants can be confident that the data the ISO relies upon for settlements purposes is accurate. The ISO's existing metering requirements are one way to help ensure such accuracy. The Six Cities request that the ISO provide more information about the expected impacts of its proposal to expand the use of SQMD subject to a SQMD Plan. Specifically, how will the ISO monitor and enforce compliance with the SQMD Plan?</p> <p>(2) The Six Cities acknowledge that the current proposal includes an annual self-assessment and certification process, but what additional steps will the ISO take to ensure that accurate SQMD is submitted and SQMD Plans are followed? What safeguards will be in place to verify accurate reporting of data under the SQMD Plan? One approach the ISO could consider is periodically auditing a sampling of data from</p>	<p>(1) SQMD plans are intended to provide additional information to ensure the accuracy and integrity of the SQMD provided by the SC to the ISO. The ISO will reserve the right to perform audits and inspections on the implementation and use of each SQMD Plan. Any SQMD Plan that proves to be inadequate is subject to revision to ensure it produces SQMD. Besides the SQMD Plan, the entity will be required to submit an annual self-assessment where its management will attest to the implementation and adherence to its SQMD Plan. The entity also will be subject to the Rules of Conduct for late or inaccurate meter data.</p> <p>(2) The accuracy and integrity of the SQMD will continue to be the responsibility of the SC for SCME that it represents. Currently CAISO has several measures to ensure the data submitted is in alignment with what was expected and has various charge codes (UIE, UFE) to support this action. Also, in addition to the yearly SC-Self Audit (see Metering BPM section 6.3.1 and CAISO Tariff section 10.3.10.1), the CAISO has the right to audit the metering facilities and data handling and processing</p>

		entities that submit SQMD pursuant to a SQMD Plan.	procedures of SCs and SCMEs (see Metering BPM section 6.3.2 and CAISO Tariff section 10.3.10.2).
Metering Exemptions	PG&E	PG&E recommends that the CAISO continue to, where appropriate, grant exemptions for resources which choose to be an ISOME. It would also be helpful if the CAISO clarified under which scenarios it would grant these exemptions in the future.	The ISO will continue to have the authority to grant exemptions from certain metering standards for ISOME.
	SCE	This is a tariff language issue and should not be considered a stumbling block. The tariff language should allow flexibility for approving metering schemes that pass a standard engineering best practices test and account for the intent. Exemptions cause work for all parties in the long run and should not be used if flexibility is available.	The ISO believes that certain exemption requests frequently requested and granted may indicate where a change in the associated ISOME requirement merits consideration. The ISO proposes to modify a particular ISOME requirement and discusses it in section 5.4 of the revised straw proposal.
	PacifiCorp	PacifiCorp would like better clarity on what the ISO is proposing for changes to this tariff rule.	See previous response.
	NRG	NRG supports this proposal.	ISO appreciates the support.
	Six cities	The Six Cities urge the ISO to provide more information about when “raw and unedited data” is acceptable such that a metering exemption would be granted.  Does the ISO’s proposal contemplate the submittal of “raw and unedited data” only if consistent with a SQMD Plan? Particularly if submittal of “raw and unedited data” is necessary “due to complex metering	The ISO believes that certain exemption requests frequently requested and granted may indicate where a change in the associated ISOME requirement merits consideration. The ISO proposes to modify a particular ISOME requirement and discusses it in section 5.4 of the revised straw proposal.



		<p>schemes,” is the ISO responsible for taking any actions with regard to such data in order to use it for settlements?</p>	
<p>Other Comments</p>	<p>PG&amp;E</p>	<p>PG&amp;E has several additional questions and recommendations:</p> <p>(1) In the Revised Straw proposal, CAISO should clarify and provide a list of the services each entity provides. Currently, this is done for different types of generators but not for other entity types.</p> <p>(2) PG&amp;E requests that the CAISO provide examples in the Revised Straw Proposal of complex metering configurations that the CAISO anticipates would benefit from the proposed enhancements.</p> <p>(3) PG&amp;E would appreciate better understanding of what the CAISO envisions as the implementation timeline for the SCME and SQMD Plan.</p> <p>(4) PG&amp;E recommends that the CAISO consider expanding current meter requirements to meet current meter technology as an alternative method of minimizing meter exemptions, besides the SCME option.</p> <p>(5) It is unclear how the utility distribution company (“UDC”) will be able to bill sub-resources based on SCME data. Would the CAISO be able to require sub-resources to report to the UDC the amount going towards wholesale and retail?</p>	<p>(1) The ISO has expanded the background section in the revised straw proposal to provide additional background on the current rules describing the difference between ISOME and SCME.</p> <p>(2) The ISO proposes to modify a particular ISOME requirement and discusses it in section 5.4.</p> <p>(3) The ISO does not anticipate FERC approval before the end of 2016, thus implementation is unlikely before 2017.</p> <p>(4) Please see response 2 above.</p> <p>(5)The ISO suggests that the UDC should still maintain the right to have their own meters in place to accurately account for the related load/generation as they do now. No, the UDC will need to retain this right.</p> <p>(6) As with any large amounts of UFE today, the ISO will work with the SC to remediate the problem.</p>

		(6) If there is a large impact to UFE from the transition to SCMEs operating under a SQMD Plan, how will the CAISO remedy this?	
	SCE	As the future of the grid is a landscape of variable resources that are connected at the distribution level, flexibility of technology use and standards should be applied to follow the intent of accuracy and visibility. The out fall of this is big data that is the true issue and how to make that data available for use. With the many varying ways smart meters were deployed it may be some time before the data is attainable for mass use.	ISO appreciates the comment.
	NRG	Given the CAISO’s intent to consider what metering arrangements may now be available given advancements in metering technology, NRG requests that the CAISO consider a particular configuration: allowing a single meter to provide information for two resource IDs. Specifically, the configuration NRG requests the CAISO consider is a configuration in which a meter would associate all production up to a certain MW level with one resource ID, and associate all production above that MW level with another resource ID. In addition, the multiple resources on a single CAISO meter could share a single step-up transformer.	This is an example of a metering configuration that could be proposed within a SQMD Plan and considered by the ISO. This would require an exemption for an ISOME.