
 California ISO	Operating Procedure	Procedure No.	5710
		Version No.	2.1
		Effective Date	2/01/2023
Certification of Metering Facilities		Distribution Restriction: None	

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Purpose

Provides guidelines throughout the Metering Certification process including the initial submission of information, site and Meter Data validation, and maintaining the certified Metering Facility.

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1. Responsibilities

CAISO Energy Data Acquisition Specialists(EDAS) Team	<ul style="list-style-type: none"> • Validate all required metering documents according to New Resource Implementation timeline (Buckets). • Input meter configuration information into internal meter collection system based on information from the CAISO Meter Configuration Worksheet. • Establish meter communication(s). • Support related testing for synchronization <ul style="list-style-type: none"> ○ If applicable, request for Hand Held Format (HHF) file(s) from the CAISO Authorized Inspector in the event that the CAISO is not able to communicate with the respective meter(s). • Perform meter data validation and issuance of Certificate of Compliance required to achieve Commercial Operational Date (COD).
CAISO Metered Entity (ISOME)	<ul style="list-style-type: none"> • Provide required documentation according to New Resource Implementation (NRI) timeliness. • Ensure that the external field personnel who installs/programs any meter(s) within the Certified Meter Facility is different from the CAISO Authorized Inspector who inspects the meter. • Ensure meter communications are operational with the CAISO. • Secure Fieldwork Support from the CAISO to support troubleshooting and/or testing. • Ensure that their Metering Facilities continue to comply with the certification criteria referred to in the CAISO tariff and the Business Practice Manuals.
CAISO Authorized Inspector	<ul style="list-style-type: none"> • Fill out the CAISO Meter and Site Verification Sheet (MSVS) and forward it to the ISOME for review. • Perform testing and inspection of the Meter Facility. • Ensure that the meter is programmed using the read-write password. • If applicable, forward the HHF to edas@caiso.com within two (2) business days after operational testing.

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2. Scope/Applicability

2.1 Background

This process is to ensure all related documentation, tests, and validations are performed resulting in the issuance of the Certificate of Compliance. The Certificate of Compliance is required to commercially participate and generate settlement statements based on Meter Data within the CAISO market.

2.2 Scope / Applicability

This procedure includes an overview of the CAISO Meter Facility certification process and requirements for maintaining the Metering Facilities.

3. Procedure Detail

3.1 Certifying Metering Facilities


3.1.1 Initializing the Process

The following actions take place to obtain a Certification of Compliance for a new or existing site:

To obtain a Certificate of Compliance (prior to the installation of any metering equipment) it is necessary for the execution of the actions below:

CAISO Metered Entity Actions
<ol style="list-style-type: none"> 1. Refer to New Resource Implementation Guide and New Resource Implementation Checklist for information and direction about how to get started. The CAISO will provide support documentation, a Certification Checklist, and describe how to locate information about meter installation on the CAISO webpage. <ul style="list-style-type: none"> • Email: EDAS@caiso.com 2. If New Site, <ul style="list-style-type: none"> • Refer to New Resource Implementation (NRI) Guide and Checklist for information and direction about how to get started. <ul style="list-style-type: none"> ○ The CAISO will provide support documentation, a Certification Checklist, and describe how to locate information about meter installation on the CAISO webpage http://www.caiso.com/participate/Pages/ResourceInterconnectionGuide/default.aspx.

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CAISO Metered Entity Actions
<p>3. If Existing Site,</p> <ul style="list-style-type: none"> • Contact the CAISO prior to making any modifications to existing metering equipment at EDAS@caiso.com. <p><i>Note: Meter replacement(s) or meter reprogram(s) will require the creation of new Device ID(s) to differentiate it from the existing metering equipment(s).</i></p> <p>4. Provide the following metering documentation per NRI process timelines:</p> <ul style="list-style-type: none"> • Schematics <ul style="list-style-type: none"> ○ Three-Line Drawings ○ Detailed Station One-Line ○ Communication Block Diagram • The CAISO Meter Configuration Worksheet and CAISO Meter and Site Verification Sheet (MSVS) can be found at: http://www.caiso.com/participate/Pages/MeteringTelemetry/Default.aspx • Transformer and Line Loss Worksheets, where applicable • Distribution Compensation Factor (DCF) engineering study with letter of agreement of DCF from appropriate UDC/Distribution Company/Interconnection entity • Supplemental Documentation which may be required at CAISO discretion: <ul style="list-style-type: none"> ○ Map to the site ○ Contact personnel ○ System Description Overview


CAISO EDAS Actions
<ol style="list-style-type: none"> 1. Ensure completeness and overall accuracy according to NRI timelines. 2. Validate submitted meter documentation to avoid delays in meter certification. 3. If documentation is missing, incomplete or inaccurate, <ul style="list-style-type: none"> • Notify the CAISO Metered Entity (ISOME) and provide details of issue(s). 4. If there is no questionable information, <ul style="list-style-type: none"> • Go to Section 3.1.2.

3.1.2 Meter Installation Activity

Once the required metering documents have been approved, the meter installation process begins:

CAISO Metered Entity Actions
<ol style="list-style-type: none"> 1. ISOME has meter(s) and associated equipment installed per tariff/BPM requirements and approved drawings. <p><i>Note: The installed meter(s) must be listed on the Approved CAISO Meter document found at: http://www.caiso.com/market/Pages/MeteringTelemetry/Default.aspx.</i></p>

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CAISO Metered Entity Actions
<p>2. Once the meter(s) and associated equipment are installed, the ISOME must secure a CAISO Authorized Inspector (<u>Different</u> from the vendor who installed and/or programmed the meter) <u>and</u> have the metering equipment validated.</p> <p><i>Note: The inspector must be from the CAISO Authorized Inspectors document found at: http://www.caiso.com/market/Pages/MeteringTelemetry/Default.aspx.</i></p> <p>3. Submit CAISO Meter Configuration Worksheet at least ten (10) business days prior to the operational testing date. This will allow CAISO EDAS to set-up configuration in the internal meter collection system.</p> <p>4. A successful communication test (based on the information capture within the form) is required to secure and execute the Operational Test.</p> <p><i>Note: The Site Owner is responsible for the accuracy of the information on this form. The submission must comply with the NRI time frames found at: http://www.caiso.com/participate/Pages/ResourceInterconnectionGuide/default.aspx.</i></p>


3.1.3 Communication Test

CAISO Metered Entity
<p>1. Verifies the installation of the installed meter and associated equipment.</p> <ul style="list-style-type: none"> • Technical Specifications can be found in Attachment B within the Metering Business Practice Manual. <p>2. Informs the CAISO of readiness for Operational Testing by scheduling an appointment via the CAISO Fieldwork Appointment Request User Interface (UI)</p> <p><i>Note: Meter communications should be successful to avoid delays in meter testing.</i></p>

CAISO EDAS
<p>1. Input meter information into internal meter collection system based on information from the CAISO Meter Configuration Worksheet.</p> <p>2. Conduct communications test against the installed meter(s).</p>

CAISO Metered Entity Actions
<p>1. Ensure successful communication test between the meter and the CAISO prior to Operational Testing.</p> <ul style="list-style-type: none"> • A fieldwork appointment is not required to check the communication to the Meter prior to the point-to-point test. Site owner(s) can simply either call EDAS or send an email to EDAS@caiso.com to verify the communication. <p><i>Note: Communication testing must be successful in order to perform the Operational Test.</i></p>

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CAISO Metered Entity Actions
2. If Communication is unsuccessful, <ul style="list-style-type: none"> • Work with vendor <u>and</u> notify CAISO personnel once it has been resolved to re-test.
3. If Communication is unsuccessful the day of the Operational Test, <ul style="list-style-type: none"> • The test will be cancelled <u>and</u> will need to be rescheduled once communications to the meter(s) have been reestablished.

3.1.4 Operational Test

The Operational Test is to validate the Meter Data interrogated from the CAISO certified meter corresponds to a given test scenario/condition.


Certified Meter Inspector, CAISO EDAS, and CAISO Metered Entity Actions
1. Perform Operational Test in accordance with the Meter Program Validation document found at: http://www.caiso.com/market/Pages/MeteringTelemetry/Default.aspx
<i>Note: The ISOME ensures all necessary access to meters and Metering Facilities for inspection and testing by CAISO Authorized Inspectors.</i>

CAISO EDAS
1. If applicable, request for Hand Held Format (HHF) file(s) from the CAISO Authorized Inspector in the event that the CAISO is not able to communicate with the respective meter(s).
2. Confirm that the meter is programmed using read-write access.

Certified Meter Inspector Actions
1. Ensures that the Operational Test was performed successfully.
2. Verifies any remaining testing and inspection.
3. Before leaving the Metering Facility, the inspector must place meter seals on all appropriate equipment.
4. Create/update <u>and</u> submit final MSVS to ISOME for submission to the CAISO.
5. If applicable, forward the downloaded Hand Held Format (HHF) file(s) to EDAS@caiso.com at least two (2) business after the operational test.
<i>Note: The ISOME is responsible for the submission of all documentation to the CAISO before Meter Data validation can occur.</i>

CAISO Metered Entity Actions
1. Send the MSVS to the CAISO and notify the CAISO of meter passing inspection.

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3.1.5 Meter Data Validation Activity

CAISO EDAS Actions
<ol style="list-style-type: none"> 1. Gather meter generation data in order to perform validation. 2. Conduct Meter Data validation against the meter to ensure proper programming, documentation, and functionality. <p><i>Note: The CAISO reserves the right to perform a field audit.</i></p> <ol style="list-style-type: none"> 3. If meter validation fails, <ul style="list-style-type: none"> • Work with ISOME to resolve the issue until successful. 4. Review Final Meter Package once meter validation is successful. 5. If Final Meter Package is complete, <ul style="list-style-type: none"> • The CAISO will issue a Certificate of Compliance <u>and</u> • Notify ISOME of Commercial Operational Data (COD).

CAISO Metered Entity Actions
<ol style="list-style-type: none"> 1. If Final Meter Package is not complete, <ul style="list-style-type: none"> • Submit missing/corrected documentation to the CAISO. <p><i>Note: The CAISO will not issue a Certificate of Compliance unless the Final Meter Package is complete. The required information can be found in Attachment C and 3.2.3.4 of the BPM for Metering.</i></p>

3.2 Responsibilities for Maintaining Certificate of Compliance


3.2.1 Facility Maintenance

If the Metering Facility is in need of maintenance, the Metered Entity is responsible for the following actions:

Once a CAISO Metered Entity has a Certificate of Compliance it is necessary to maintain the facility in accordance with the CAISO tariff and Business Practice Manual for Metering. If the Metering Facility is judged to be out of compliance by the CAISO, the Certificate of Compliance may be revoked.

CAISO Metered Entity Actions
<ol style="list-style-type: none"> 1. Inform the CAISO <u>prior to</u> any replacements, changes, or modifications that are made to any meters or Metering Facilities of a CAISO Metered Entity that has been certified. <ul style="list-style-type: none"> • Under CAISO Tariff Section 10.2.4.7, the CAISO may require the recertification of the Metering Facility if desired. <ul style="list-style-type: none"> ○ Emails should be sent to EDAS@caiso.com.

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CAISO Metered Entity Actions
<p>Note: For any site maintenance that involves the removal of CAISO seals, it is necessary to contact the CAISO in accordance with Section 5.1.4 of the BPM for Metering and Section 10.2.13.1 of the CAISO tariff.</p> <p>2. Continue to comply with the certification criterion that is found within the CAISO tariff and the Business Practice Manual for Metering.</p> <ul style="list-style-type: none"> • Section 10.2.4.5 in the CAISO tariff requires CAISO Metering Entities to follow the criteria found in the CAISO Tariff as well as Business Practice Manual Appendix C. <p>Note: If Field Support is needed, an appointment must be scheduled in advance by using Fieldwork Appointment Request Form at: http://www.caiso.com/fieldworksupport/Pages/default.aspx.</p>

3.2.2 Certificate Revocation

If the CAISO believes a Metered Entity to be out of compliance, the following actions may be taken:

CAISO EDAS Actions
<ol style="list-style-type: none"> 1. Under Section 3.2.3.9 of the BPM for Metering, the CAISO may revoke any Certificate of Compliance if there are reasonable grounds to believe that the CAISO Metered Entity no longer meets the certification criteria found in the CAISO tariff and the Business Practice Manual. 2. If the CAISO chooses to revoke a Certificate of Compliance and has given written notice to the relevant CAISO Metered Entity stating that it does not believe that the identified Metering Facilities meets the certification criteria: <ul style="list-style-type: none"> • The CAISO will not accept Revenue Quality Meter Data (RQMD) from a CAISO Metered Entity unless that RQMD is produced by a currently certified Metered Entity in accordance with Section 10.2.4.6 of the CAISO Tariff. • CAISO Metered Entities may seek recertification of the relevant Metering Facilities in accordance with Section 10.2.4.6 of the CAISO Tariff. <ul style="list-style-type: none"> ○ Any appeals may be made to EDAS@caiso.com.

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3.3 Installation of Additional Metering

3.3.1 CAISO Metered Entity Election to Install Additional Metering

If the CAISO Metered Entity chooses to install additional metering the following actions must be taken:

If there is a desire to install any additional meters or equipment within the certified Metering Facilities it is necessary for the CAISO and CAISO Metered Entity to properly coordinate on the installation process in accordance with Section 10.2.14 of the CAISO tariff and Section 3.3 of the BPM for Metering.


CAISO Metered Entity Actions
<ol style="list-style-type: none"> 1. Inform the CAISO before any changes or modifications are made to any Metering Facilities of a CAISO Metered Entity that have been certified. <ul style="list-style-type: none"> • A CAISO Metered Entity may <u>not</u> start installation of additional metering until the CAISO has approved its proposal for installation. • Depending on the changes made to the Metering Facilities, it may be necessary to re-inspect or test all, or part, of the Metering Facilities. 2. Under Section 3.3.3 of the BPM for Metering, if a CAISO Metered Entity installs additional metering, such metering must, unless the CAISO agrees otherwise: <ul style="list-style-type: none"> • Be installed and maintained at the CAISO Metered Entity's cost; • Be located on the CAISO Metered Entity's side of any primary meter; <u>and</u> • Not interfere with the accuracy of any primary meter and, if that primary meter is directly polled by the CAISO, the CAISO's ability to directly poll that meter.

3.3.2 CAISO Requirement to Install Additional Metering

Under Section 3.3.2 of the BPM for Metering, a CAISO Metered Entity that is notified by the CAISO that it is required to install additional Metering Facilities must:

CAISO Metered Entity Actions
<ol style="list-style-type: none"> 1. Provide the CAISO written confirmation of receipt of that notice within three (3) Business Days of receiving that notice. 2. Submit a proposal for installation to the CAISO within 45 Business Days of receiving that notice containing the following information: <ul style="list-style-type: none"> • A description of the proposed Metering Facilities to be installed (which includes all relevant schematic drawings and one-line drawings). • A proposed timetable for installation. • Any other information requested by the CAISO.

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CAISO Metered Entity Actions
<p>3. Upon CAISO approval of the submitted installation proposal, the Metered Entity may begin the installation process.</p> <p><i>Note: Depending on the reason for installing additional metering, the Metering Facility may be subject to re-inspection and/or re-certification once the installation is completed.</i></p>

4. Supporting Information

Operationally Affected Parties

Shared with the Public.

References

Resources studied in the development of this procedure and that may have an effect upon some steps taken herein include but are not limited to:

CAISO Tariff	Section 10
Business Practice Manual for Metering	Sections 3.2 and 3.3

Definitions

Unless the context otherwise indicates, any word or expression defined in the Master Definitions Supplement to the CAISO tariff shall have that meaning when capitalized in this Operating Procedure.


The following additional term(s) are capitalized in this Operating Procedure when used as defined below:

NRI	New Resource Implementation
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Version History

Version	Change	Date
1.4	Section 3.1.1, Step 3: Corrected link and removed verbiage that MSVS had to be received prior to the operational test. Minor format and grammar updates.	2/14/18

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2.0	Periodic Review: Removed references to MDAS. Section 3.1.3: Combined MDAS actions with EDAS actions table. Minor format and grammar updates. Included document control statement in footer.	1/16/20
2.1	Periodic Review: Updated from ISO to CAISO. Removed Technical Review and Approval sections and replaced with Section 5, Periodic Review Procedure. Removed version history prior to five years. Minor formatting and grammar edits for procedures consistency.	2/01/23

5. Periodic Review Procedure

Review Criteria & Incorporation of Changes

There are no specific review criteria identified for this procedure, follow instructions in CAISO Operating Procedure 5510.

Frequency

Every three (3) Years.

Appendix

No references at this time.