

California Independent System Operator Corporation  
Fifth Replacement Tariff

**Table of Contents**

[Appendix N Pseudo-Tie Protocols ..... 2](#)

[1. Pseudo-Ties of Generating Units to the CAISO Balancing Authority Area ..... 2](#)

[1.1 Consistency with NERC/WECC Requirements ..... 2](#)

[1.2 CAISO Operating, Technical, and Business Requirements ..... 2](#)

[1.3 Operating Agreements ..... 5](#)

[2. Pseudo-Ties of Generating Units out of the CAISO Balancing Authority Area ..... 5](#)

[2.1 Consistency with NERC/WECC Requirements ..... 5](#)

[2.2 Operating, Technical, and Business Requirements ..... 5](#)

[2.3 Operating Agreements ..... 8](#)

[3. Pseudo-Ties of Shared Resources to the CAISO Balancing Authority Area ..... 8](#)

[3.1 Eligibility ..... 8](#)

[3.2 Allocation Protocol ..... 8](#)

[3.3 Telemetry ..... 10](#)

[3.4 Metering ..... 10](#)

[3.5 Outages ..... 10](#)

[3.6 Start-up Costs and Minimum Load Costs ..... 10](#)

## Appendix N

### Pseudo-Tie Protocols

#### 1. Pseudo-Ties of Generating Units to the CAISO Balancing Authority Area

##### 1.1 Consistency with NERC/WECC Requirements

1.1.1 Operation of Pseudo-Tie functionalities must comply with all applicable NERC, WECC, and North American Energy Standards Board (NAESB) reliability standards, policies, requirements, and guidelines regarding inter-Balancing Authority Area scheduling. A Pseudo-Tie must be registered as a “Point Of Delivery” (POD) with the NAESB Electric Industry Registry (EIR). All (off-system) static scheduling associated with Pseudo-Tie functionality must be consistent with NERC Reliability Standards for interchange scheduling and coordination.

##### 1.2 CAISO Operating, Technical, and Business Requirements

###### 1.2.1 Operating Requirements

1.2.1.1 The CAISO shall establish and specify the location of any Pseudo-Tie between the CAISO Balancing Authority Area and the Native Balancing Authority Area. All Dynamic Schedules and delivered Energy from a Pseudo-Tie Generating Unit shall be subject to the standard CAISO Transmission Loss calculation as described in Section 27.5.1.1 and Appendix C of the CAISO Tariff.

1.2.1.2 A Pseudo-Tie Generating Unit must transfer dynamically its entire output of its Real-Time Generation production into the CAISO Balancing Authority Area at the associated pre-determined CAISO Intertie, regardless of whether the Pseudo-Tie Generating Unit represents the entire Generating Unit that is Pseudo-Tied into the CAISO Balancing Authority Area in accordance with Section 1 of this Appendix N or only a share of a Generating Unit that is Pseudo-Tied into the CAISO Balancing Authority Area in accordance with Section 3 of this Appendix N. A Pseudo-Tie Generating Unit must be permanently associated with a particular pre-determined CAISO Intertie. Any dynamic transfers of Energy, and/or Energy associated with Ancillary Services will be subject to Congestion mitigation at the associated pre-determined CAISO Intertie. The CAISO may, from time to time and at its discretion, allow for a change in such pre-established association of the Pseudo-Tie Generating Unit with a particular CAISO Intertie. Any change to the designated path is subject to approval by all applicable transmission providers.

1.2.1.3 A Pseudo-Tie Generating Unit shall operate under the terms of the CAISO Tariff applicable to the Generating Units of Participating Generators in the CAISO Balancing Authority Area except as expressly provided, including requirements to promptly follow CAISO Dispatch Instructions, Exceptional Dispatch Instructions, Operating Instructions as defined in the CAISO Tariff, and other instructions, without limitation, pursuant to Sections 7.6 and 7.7 of the CAISO Tariff and any CAISO Operating Procedure established specifically for the Pseudo-Tie, including in the event of an overload condition at the associated pre-determined CAISO Intertie.

1.2.1.4 A Participating Generator with a Pseudo-Tie Generating Unit shall demonstrate the ability to deliver the Pseudo-Tie Generating Unit’s maximum output to the associated pre-determined CAISO Intertie by providing the CAISO with a copy of its interconnection agreement with the Balancing Authority for its Native Balancing Authority Area.

1.2.1.5 Firm transmission for the Operating Hour in a form agreed to by the CAISO must be reserved for the Pseudo-Tie Generating Unit output transfers into the CAISO Balancing Authority Area across the entire transmission path external to the CAISO Balancing Authority Area sufficient to permit delivery of an amount equal to at least the self-scheduled Generation of a Pseudo-Tie Generating Unit. In the event that a sufficient transmission reservation has not been established prior to the

California Independent System Operator Corporation  
Fifth Replacement Tariff

Operating Hour to support Dispatch up to the Pseudo-Tie Generating Unit's maximum available capacity, and additional transmission will not be available within the Operating Hour, a derate must be reported in the CAISO's Outage management system to limit its Dispatch to its available transmission.

- 1.2.1.6** All Energy transfers associated with a Pseudo-Tie Generating Unit must be electronically tagged (E-Tagged).
- 1.2.1.7** The CAISO will treat all dynamically transferred Pseudo-Tie Generating Unit Energy as internal CAISO Balancing Authority Area Generation (except that it will be subject to Congestion determined by the scheduling capacity of the associated pre-determined CAISO Intertie) and will procure, or ensure self-provision of, required Operating Reserves for the CAISO Balancing Authority Area Loads served by a Pseudo-Tie Generating Unit.
- 1.2.1.8** All dynamic Energy transfers associated with CAISO procurement of Spinning Reserve and Non-Spinning Reserve from a Pseudo-Tie Generating Unit will be afforded similar treatment (i.e., treatment as internal CAISO Balancing Authority Area Generation, except that it will be subject to Congestion determined by the scheduling capacity of the associated pre-determined CAISO Intertie).
- 1.2.1.9** Off-system sales pursuant to a Pseudo-Tie Participating Generator Agreement shall only be delivered from the Pseudo-Tie Generating Unit. The maximum allowable off-system sales of Energy from a Pseudo-Tie Generating Unit may not exceed the Pseudo-Tie Generating Unit's scheduled output. Off-system sales shall be treated as a firm fixed static export from the CAISO Balancing Authority Area.
- 1.2.1.10** In Real-Time, the total output of a Pseudo-Tie Generating Unit shall be telemetered to the CAISO. If the Pseudo-Tie Generating Unit is an Eligible Intermittent Resource, telemetered data to the CAISO shall include appropriate operational data, meteorological data, and other data reasonably necessary to forecast Energy as specified in Appendix Q (Eligible Intermittent Resources Protocol) of the CAISO Tariff and applicable Business Practice Manuals.
- 1.2.1.11** The Real-Time dynamic transfer from a Pseudo-Tie Generating Unit may not exceed the CAISO's Dispatch Operating Point. The Dispatch Operating Point represents not only the estimated Dynamic System Resource's Energy but also, in combination with any Ancillary Service Award that has not been dispatched as Energy, the transmission reservation on the associated CAISO Intertie. In the event that a Pseudo-Tie Generating Unit's output creates an imminent reliability issue on the associated pre-determined CAISO Intertie, the Pseudo-Tie Generating Unit will be subject to immediate curtailment by the CAISO. A Pseudo-Tie Generating Unit may also be curtailed whenever its Generation output, less any off-system sales, is greater than the associated transmission reservation pursuant to Section 1.2.1.5 of this Appendix N.
- 1.2.1.12** The CAISO may, at its discretion, either limit or forego procuring any or all Ancillary Services at the particular pre-determined CAISO Intertie associated with a Pseudo-Tie Generating Unit to ensure that Operating Reserves are adequately dispersed throughout the CAISO Balancing Authority Area and its Interties as required by the WECC.
- 1.2.1.13** Unless a particular service is procured by the Participating Generator from some other source, the CAISO shall provide to a Pseudo-Tie Generating Unit all Balancing Authority services available to other Generating Units in the CAISO Balancing Authority Area, which may include the auxiliary load equipment needs of the Pseudo-Tie Generating Unit, provided firm transmission service is reserved across the transmission path from the CAISO Intertie to the Pseudo-Tie Generating Unit.
- 1.2.1.14** The CAISO and the Native Balancing Authority Area will develop a coordinated operating

California Independent System Operator Corporation  
Fifth Replacement Tariff

procedure to facilitate the continued delivery of Energy and Ancillary Services from a Pseudo-Tie Generating Unit to the desired delivery points in the event the primary contract path is unavailable or curtailed.

**1.2.1.15** The CAISO may implement a moratorium on the establishment of new Pseudo-Ties associated with a particular Intertie in the event it determines that the volume of dynamic transfers could have an adverse effect on System Reliability. In the event the CAISO implements such a moratorium, the CAISO shall undertake studies to determine an appropriate allocation of the capacity of the affected Intertie to dynamic transfers.

**1.2.2 Technical Requirements**

**1.2.2.1** All applicable communication and telemetry requirements of the WECC, the CAISO, and a Pseudo-Tie Generating Unit's Native Balancing Authority Area regarding generating units and inter-Balancing Authority Area Interties must be satisfied. These requirements include the requirements of Appendix M applicable to Dynamic Schedules of imports and the requirements of the CAISO Tariff applicable to Generating Units in the CAISO Balancing Authority Area.

**1.2.2.2** Proper incorporation of the dynamic signal into all involved Balancing Authority Areas' ACE equations will be required.

**1.2.2.3** If there is no Scheduled Generation in the DAM or Real-Time markets, a Pseudo-Tie Generating Unit shall not generate except when issued an Exceptional Dispatch or Operating Instruction as defined in the CAISO Tariff.

**1.2.2.4** If a Participating Generator with a Pseudo-Tie Generating Unit desires to participate in the CAISO's Regulation market, all provisions of the CAISO's Standards for Imports of Regulation, or any successor CAISO standards regarding the technical arrangements for imports of Regulation posted on the CAISO Website, shall apply.

**1.2.2.5** Only one dynamic transfer signal may be associated with any Pseudo-Tie Generating Unit.

**1.2.3 Business Requirements**

**1.2.3.1** For Settlements, the Energy transferred dynamically from a Pseudo-Tie Generating Unit during an Operating Hour will be settled based on the Generating Unit revenue meter value, and any static off-system sales represented as an export quantity will be deemed delivered at a Pseudo-Tie for that Operating Hour consistent with Section 1.2.1.9 of this Appendix N.

**1.2.3.2** Any transmission losses and other transmission related costs attributable to a Pseudo-Tie Generating Unit on a non-CAISO transmission system will remain the responsibility of the Participating Generator.

**1.2.3.3** Should there be any need or requirement, whether operational or procedural, for the CAISO to make real time adjustments to the CAISO's inter-Balancing Authority Area Interchange Schedules at the pre-determined CAISO Intertie associated with a Pseudo-Tie Generating Unit (including curtailments), the dynamic transfer from the Pseudo-Tie Generating Unit shall be treated in the same manner as any CAISO Interchange Schedule at that pre-determined CAISO Intertie.

**1.2.3.4** A Pseudo-Tie Generating Unit will be eligible to set the Market Clearing Price in accordance with the CAISO Tariff in all applicable CAISO Markets.

**1.2.3.5** The CAISO shall assess charges to the Scheduling Coordinator for a Participating Generator with a Pseudo-Tie Generating Unit on the same basis as they apply to any other CAISO intra-Balancing Authority Area Generating Unit, subject to the provisions of this Section 1.2.3.5.

California Independent System Operator Corporation  
Fifth Replacement Tariff

**1.2.3.5.1** Any transfers from a Pseudo-Tie Generating Unit scheduled into the CAISO Balancing Authority Area shall be subject to CAISO charges associated with the DAM and Real-Time Market, except that (1) Energy associated with the Pseudo-Tie Generating Unit will be subject to Intertie Congestion charges that are incorporated into the LMP, (2) Ancillary Services provided by the Pseudo-Tie Generating Unit will be assessed applicable Intertie Congestion charges pursuant to Section 11.10.1 of the CAISO Tariff, and (3) the transfers will be subject to any applicable transmission loss obligation charges in cases where the CAISO and another Balancing Authority have agreed on an assessment to the CAISO of supplemental losses incurred outside of the CAISO Balancing Authority Area.

**1.2.3.5.2** Any off-system sales of Energy shall be subject to all export charges except the Wheeling Access Charge. A special export market Resource ID is required for this purpose for which the Participating Generator shall provide ninety (90) days advance notice prior to implementation.

### **1.3 Operating Agreements**

**1.3.1** A Pseudo-Tie of a Generating Unit to the CAISO Balancing Authority Area shall be conditional on the facilitation by the Native Balancing Authority Area of the Pseudo-Tie functionality in accordance with an operating agreement between the Balancing Authority for the Native Balancing Authority Area and the CAISO specific to Pseudo-Tie functionality. The CAISO will request that any such operating agreement limit the ability of the Balancing Authority for the Native Balancing Authority Area to terminate the operating agreement or otherwise withdraw from the Pseudo-Tie functionality established pursuant to the operating agreement.

**1.3.2** A Participating Generator with a Pseudo-Tie Generating Unit shall comply with its contractual obligations to the owners of the facilities to which the Pseudo-Tie Generating Unit is interconnected and/or the Native Balancing Authority Area that affect in any way the ability of the Participating Generator to perform its obligations under its Pseudo-Tie Participating Generator Agreement.

## **2. Pseudo-Ties of Generating Units out of the CAISO Balancing Authority Area**

### **2.1 Consistency with NERC/WECC Requirements**

**2.1.1** Operation of Pseudo-Tie functionalities must comply with all applicable NERC, WECC, and NAESB reliability standards, policies, requirements, and guidelines regarding inter-Balancing Authority Area scheduling. A Pseudo-Tie must be registered as a "Point Of Delivery" (POD) with the NAESB Electric Industry Registry EIR. All interchange scheduling associated with Pseudo-Tie functionality must be consistent with NERC Reliability Standards for interchange scheduling and coordination.

### **2.2 Operating, Technical, and Business Requirements**

#### **2.2.1 Operating Requirements**

**2.2.1.1** The CAISO and the Balancing Authority for the Attaining Balancing Authority Area will establish the terms of any Pseudo-Tie between the CAISO Balancing Authority Area and the Attaining Balancing Authority Area for a Pseudo-Tie of a generating unit out of the CAISO Balancing Authority Area, will specify the location of that Pseudo-Tie point, and will register that location as a point of delivery to the Attaining Balancing Authority Area.

**2.2.1.2** The owner of a generating unit that will be a Pseudo-Tie out of the CAISO Balancing Authority Area must (a) transfer dynamically its entire output of its real time generation production and (b) submit Bids, including Self-Schedules, into the CAISO Markets to schedule the use of CAISO transmission associated with the export of the Pseudo-Tie generating unit Energy into the Attaining Balancing Authority Area at the associated pre-existing CAISO physical Intertie, as

California Independent System Operator Corporation  
Fifth Replacement Tariff

provided in Section 2.2.2.3 of this Appendix N.

- 2.2.1.3** There will be no static imports from a Pseudo-Tie generating unit directly into the CAISO Balancing Authority Area.
- 2.2.1.4** All Energy transfers associated with a Pseudo-Tie generating unit must be electronically tagged (E-Tagged).
- 2.2.1.5** The CAISO will treat all dynamically transferred Energy from a Pseudo-Tie of a generating unit out of the CAISO Balancing Authority Area as generation external to the CAISO Balancing Authority Area.
- 2.2.1.6** In case a generating unit that is a Pseudo-Tie out of the CAISO Balancing Authority Area is curtailed or forced out of service in real-time, the associated Pseudo-Tie Bids submitted into the CAISO Markets must be adjusted by the next available CAISO Market scheduling timeframe.
- 2.2.1.7** In real-time, the total output of a Pseudo-Tie generating unit shall be telemetered to the CAISO and to the Balancing Authority for the Attaining Balancing Authority Area.
- 2.2.1.8** In real-time, the total Energy from a Pseudo-Tie generating unit shall not exceed the capacity of the Pseudo-Tie generating unit as specified in the agreement between the CAISO and the owner of the Pseudo-Tie generating unit.
- 2.2.1.9** The CAISO, the Balancing Authority for the Attaining Balancing Authority Area, any affected Participating Transmission Owner, and the owner of the Pseudo-Tie generating unit will develop a coordinated operating procedure outlining the agreed upon framework among all parties for the operation of a Pseudo-Tie of the generating unit out of the CAISO Balancing Authority Area.
- 2.2.1.10** The output of a Pseudo-Tie generating unit may be subject to real-time curtailments and Operating Instructions as defined in the CAISO Tariff as directed by the CAISO in accordance with Good Utility Practices.
- 2.2.1.11** The CAISO may implement a moratorium on the establishment of new Pseudo-Ties associated with a particular Intertie in the event it determines that the volume of dynamic transfers could have an adverse effect on System Reliability. In the event the CAISO implements such a moratorium, the CAISO shall undertake studies to determine an appropriate allocation of the capacity of the affected Intertie to dynamic transfers.

## **2.2.2 Technical Requirements**

- 2.2.2.1** All applicable communication and telemetry requirements of the WECC, the CAISO, and the Balancing Authority for the Attaining Balancing Authority Area regarding generating units and inter-Balancing Authority Area interties must be satisfied, provided that the CAISO's communications and telemetry requirements for Generating Units in the CAISO Balancing Authority Area shall not be applicable, except that the owner of a generating unit that is a Pseudo-Tie out of the CAISO Balancing Authority Area shall provide meteorological data and forecast information from any wind or solar resource in accordance with the requirements for Eligible Intermittent Resources in Appendix Q (Eligible Intermittent Resources Protocol) of the CAISO Tariff and applicable Business Practice Manuals.
- 2.2.2.2** Proper incorporation of the dynamic signal into all involved Balancing Authority Areas' ACE equations will be required.

California Independent System Operator Corporation  
Fifth Replacement Tariff

- 2.2.2.3** A Pseudo-Tie generating unit must be permanently associated with a particular pre-existing CAISO Intertie. If for any reason delivery cannot be made to the associated pre-existing CAISO Intertie, the CAISO may still treat the Energy from a Pseudo-Tie of a generating unit out of the CAISO Balancing Authority Area as deemed delivered to the owner of the Pseudo-Tie generating unit at an alternate designated Intertie with available capacity. The Balancing Authority for the Attaining Balancing Authority Area will immediately request emergency wheeling service from the CAISO under provisions of the inter-Balancing Authority agreement between the CAISO and that Balancing Authority to maintain the Pseudo-Tie generating unit schedule via the alternate designated Intertie. The owner of the Pseudo-Tie generating unit, or its designated Scheduling Coordinator, will reschedule the Pseudo-Tie generating unit Energy in the next available CAISO scheduling timeframe through the CAISO scheduling system, until the transmission path to the associated pre-existing CAISO Intertie is re-established. The owner of the Pseudo-Tie generating unit, or its designated Scheduling Coordinator, will be charged and will pay for the requested emergency use transmission and all associated CAISO charges, in accordance with the CAISO Tariff, for this emergency service.
- 2.2.2.4** Only one dynamic transfer signal may be associated with a Pseudo-Tie generating unit.
- 2.2.2.5** Should there be any need or requirement, whether operational or procedural, for the CAISO or the Balancing Authority for the Attaining Balancing Authority Area to make real-time adjustments to the CAISO's inter-Balancing Authority Area schedules at the pre-existing CAISO Intertie associated with the Pseudo-Tie generating unit (including curtailments), the dynamic transfer from the Pseudo-Tie generating unit shall be treated in the same manner as any CAISO Interchange Schedule at that pre-existing CAISO Intertie, and in accordance with any applicable operating instructions from any affected Participating Transmission Owner.
- 2.2.2.6** Energy delivered from the Pseudo-Tie generating unit will be subject to all provisions of the Balancing Authority Area procedures of the Balancing Authority for the Attaining Balancing Authority Area.
- 2.2.3 Business Requirements**
- 2.2.3.1** For settlements, the Energy transferred dynamically from the Pseudo-Tie generating unit during an operating hour will be deemed delivered, for that operating hour.
- 2.2.3.2** All Energy from a Pseudo-Tie generating unit interchange shall be subject to the CAISO Tariff Transmission Loss construct and billed accordingly to the owner of the Pseudo-Tie generating unit or the designated Scheduling Coordinator for the Pseudo-Tie generating unit, including any applicable transmission loss obligation charges in cases where the CAISO and another Balancing Authority have agreed on an assessment to the CAISO of supplemental losses incurred for the Energy outside of the CAISO Balancing Authority Area.
- 2.2.3.3** The ISO shall assess the owner of a Pseudo-Tie generating unit or its designated Scheduling Coordinator all applicable market charges and Grid Management Charges in accordance with the CAISO Tariff.
- 2.2.3.4** In the event of a line outage and a subsequent request by the Balancing Authority for the Attaining Balancing Authority Area for emergency Wheeling service from the CAISO to maintain deliveries of power to the Attaining Balancing Authority Area from the Pseudo-Tie generating unit, all CAISO Tariff market and GMC charges applicable to the resulting use of CAISO transmission service shall be applied for the duration of these events, inclusive of any related FMM Schedules.
- 2.2.3.5** All Pseudo-Tie generating unit export schedules from the Attaining Balancing Authority Area shall be submitted by a certified Scheduling Coordinator into the CAISO Markets as coordinated import and export Wheeling Through Bids, at the designated pre-existing Intertie with the Attaining Balancing Authority Area associated with the Pseudo-Tie.

California Independent System Operator Corporation  
Fifth Replacement Tariff

**2.3 Operating Agreements**

- 2.3.1** A Pseudo-Tie of a generating unit out of the CAISO Balancing Authority Area shall be conditional on the facilitation by the Balancing Authority for the Attaining Balancing Authority Area of the Pseudo-Tie functionality in accordance with an operating agreement to be entered into between the Balancing Authority for the Attaining Balancing Authority Area and the CAISO specific to Pseudo-Tie functionality.
- 2.3.2** The owner of a Pseudo-Tie generating unit shall comply with its contractual obligations with the owners of the facilities to which the Pseudo-Tie generating unit is interconnected and/or the Attaining Balancing Authority Area that affect in any way the ability of the owner of the Pseudo-Tie generating unit to perform its obligations under the CAISO Tariff and an agreement to be entered into between the owner of the Pseudo-Tie generating unit and the CAISO.

**3. Pseudo-Ties of Shared Resources to the CAISO Balancing Authority Area**

**3.1 Eligibility**

- 3.1.1** An eligible Pseudo-Tie Generating Unit may qualify as a Pseudo-Tie of a shared Generating Unit if, in addition to all other applicable requirements, the shared Generating Unit also fulfills the requirements of this Section 3 of Appendix N. A shared Generating Unit that fulfills the additional requirements of this Section 3 of Appendix N may register as a Pseudo-Tie Generating Unit. Nothing in this Section 3 of Appendix N restricts a shared Generating Unit registered as a Pseudo-Tie Generating Unit from transitioning its participation in the CAISO Markets from a Pseudo-Tie Generating Unit to a System Resource, or vice versa, provided it has successfully registered as such with the CAISO and meets all the requirements of a System Resource.
- 3.1.2** A Scheduling Coordinator must represent each Generating Unit share according to the rules applicable to the CAISO Market in which it will participate. A Scheduling Coordinator that represents a share of a Multi-Stage Generating Resource will not be required to register that share in accordance with Section 27.8, and the CAISO will not model any specific resource characteristic that it otherwise would model if the resource were registered as a Multi-Stage Generating Resource, or that represents a Forbidden Operating Region.
- 3.1.3** A Scheduling Coordinator must separately register each Generating Unit share with the CAISO as an independent Generating Unit according to the rules applicable to the CAISO Market in which it will participate. If a resource share is located in a Native Balancing Authority Area that is an EIM Entity Balancing Authority Area and the share is not Pseudo-Tied to the CAISO Balancing Authority Area, the share must also register as an EIM Resource unless it is Pseudo-Tied to a Balancing Authority Area outside of the EIM Area or otherwise excluded from the EIM Entity Balancing Authority Area.
- 3.1.4** The registration of the Pseudo-Tie Generating Unit must identify the allocation of key attributes in Schedule 1 of its Pseudo-Tie Participating Generator Agreement consistent with the allocation protocol methodology, including the allocation of telemetry, metered output, non-negative values for minimum output, Minimum Load Costs, Start-up Costs, and maximum output levels.

**3.2 Allocation Protocol**

- 3.2.1** Each Scheduling Coordinator that represents a Generating Unit share participating in a CAISO Market as a Pseudo-Tie Generating Unit must operate in accordance with an allocation protocol. The resource owners must agree upon a shared resource allocation protocol that satisfies the CAISO allocation protocol requirements of this Section 3 of Appendix N, and they must appoint a Scheduling Coordinator as the protocol administrator. The Scheduling Coordinator appointed as

California Independent System Operator Corporation  
Fifth Replacement Tariff

the protocol administrator will provide telemetry to CAISO, coordinate the shared logical metering procedure, and ensure that the combined operational characteristics of the shares do not exceed the associated physical capability of the resource. The obligations of the Scheduling Coordinator appointed as the protocol administrator are in addition to the obligations of a Scheduling Coordinator that represents any individual share.

- 3.2.2** The CAISO will review the allocation protocol according to the timelines and implementation details established in the Business Practice Manuals, and will approve the allocation protocol prior to participation in a CAISO Market by the shared Generating Unit as a Pseudo-Tied Generating Unit if the allocation protocol meets the requirements of this Section 3 of Appendix N and the Business Practice Manuals. Any modifications proposed to the shared resource allocation protocol will only be effective following subsequent approval by the CAISO in accordance with the timelines and implementation details established in the Business Practice Manuals.
- 3.2.3** The CAISO will have the right to require the Scheduling Coordinator appointed as the protocol administrator to submit documentation that demonstrates compliance with the allocation protocol. Each Scheduling Coordinator that represents a Generating Unit share that participates in a CAISO Market will remain individually responsible for compliance with the allocation protocol. The allocation protocol may also provide for an auditable self-monitoring compliance mechanism, such as regular reporting to CAISO to explain any matters of significance concerning administration of the allocation protocol.
- 3.2.4** If the CAISO finds that the Pseudo-Tie Generating Unit materially deviates from its allocation protocol, the CAISO will notify the responsible Scheduling Coordinator and will suspend the Pseudo-Tie Generating Unit's participation in the CAISO Markets as a shared Generating Unit pursuant to this Section 3 of Appendix N pending a final determination of the CAISO's finding(s). Within five business days of the CAISO's notification, the Scheduling Coordinator must either: (1) object to the CAISO's determination and seek resolution of the disputed facts through the CAISO ADR Procedures; (2) or admit to the CAISO's findings. The suspension will remain in place until the dispute has been resolved. During the suspension period, the Pseudo-Tie Generating Unit may participate in the CAISO Markets as a System Resource, provided it has successfully registered as such with the CAISO and meets all the requirements of a System Resource. If the Scheduling Coordinator admits to the CAISO's findings or the CAISO ADR Procedures confirm the CAISO's findings, the CAISO will terminate the Pseudo-Tie Generating Unit from the Pseudo-Tie Participating Generator Agreement within two Business Days of the date on which either the Scheduling Coordinator admits to the CAISO's findings in writing, or CAISO ADR Procedures have reached a final determination supporting the CAISO's findings. Following termination, the Pseudo-Tie Generating Unit may participate in the CAISO Markets as a System Resource, provided it has successfully registered as such with the CAISO and meets all the requirements of a System Resource. If the final determination resulting from the CAISO ADR Procedures does not support the CAISO's findings, the CAISO will reinstate participation as a Pseudo-Tied Generating Unit consistent with the CAISO's procedures and requirements for participation in the CAISO Markets pursuant to this Section 3 of Appendix N.
- 3.2.5** If the CAISO finds that the Pseudo-Tie Generating Unit's participation in the CAISO Markets, even if consistent with the allocation protocol, is exploiting or may exploit the Bid Cost Recovery mechanism to the benefit of the Scheduling Coordinator or is causing inequitable allocation of Bid Cost Recovery between the affected Balancing Authority Areas, the CAISO will notify the responsible Scheduling Coordinator and will suspend the Pseudo-Tie Generating Unit's participation in the CAISO Markets as a shared Generating Unit pursuant to this Section 3 of Appendix N pending a final determination of the CAISO's finding(s). During the suspension period, the Pseudo-Tie Generating Unit may participate in the CAISO Markets as a System Resource, provided it has successfully registered as such with the CAISO and meets all the requirements of a System Resource.

California Independent System Operator Corporation  
Fifth Replacement Tariff

**3.3 Telemetry**

**3.3.1** The Scheduling Coordinator appointed as the protocol administrator must provide separate telemetry data for each Pseudo-Tie Generating Unit, EIM Resource or other resource share, in addition to telemetry data for the entire resource and any other telemetry data required for participation in the CAISO Markets, which will be tested and confirmed prior to participation in the CAISO Markets. Resource shares located in Balancing Authority Areas outside of the EIM Area that do not participate in a CAISO Market should also follow the telemetry process documented in the allocation protocol, in addition to any other telemetry requirements of the Native Balancing Authority Area.

**3.4 Metering**

**3.4.1** Generating Unit shares participating in a CAISO Market must establish a SQMD plan, which will be subject to approval by CAISO pursuant to the requirements for Scheduling Coordinator Metered Entities. The SQMD plan must:

- (i) ensure that the sum of the calculated logical metered resource shares match the total output of the resource;
- (ii) reflect that the logical metering for each share will follow the Dispatch Instruction to the extent feasible;
- (iii) explain how a resource share deviation from a Dispatch Instruction will be managed, and confirm that Uninstructed Deviations assigned to a Generating Unit share delivered to the CAISO Balancing Authority Area will not exceed a pro-rata allocation proportional to the Instructed Imbalance Energy in each Settlement Interval; and
- (iv) account for the allocation of Outages among the resource shares.

**3.4.2** The native EIM Entity will report its Meter Data for Settlement and E-Tags for Interchange accounting according to the general requirements applicable to EIM Entities. Meter Data for resource shares located in Balancing Authority Areas outside of the EIM Area that do not participate in a CAISO Market should follow the logical metering process documented in the SQMD plan submitted by the associated Pseudo-Tie Generating Unit, in addition to any other metering requirements of the Native Balancing Authority Area.

**3.5 Outages**

**3.5.1** If a Generating Unit participating in a CAISO Market experiences an Outage, each Scheduling Coordinator will be required to report the Outage for the Generating Unit share it represents according to the Outage reporting requirements of Section 9 or Section 29.9, as applicable. Allocation of an Outage among shares other than a proportional sharing of the Outage (*i.e.*, pro-rata based on the PMax of each share at the time of the Outage) must be supported by operational characteristics or pre-existing contractual obligations. The allocation protocol must identify the operational characteristics or pre-existing contractual obligations that may lead to disproportionate Outage allocation and describe the Outage allocation under such conditions and requirements, including the formula for calculating the Outage allocation among the shares.

**3.6 Start-up Costs and Minimum Load Costs**

California Independent System Operator Corporation  
Fifth Replacement Tariff

- 3.6.1** Start-Up Costs and Minimum Load Costs should be equitably allocated among the Generating Unit and the other shares based on the proportion of costs. The cost sharing proportions must be documented in the allocation protocol and include a description of how compliance will be monitored and verified in comparison to the overall costs. In general, the sum of the costs for each Generating Unit and the other shares must not exceed the total costs that would be represented if the shared resource were participating in a CAISO Market as a single resource.