

California Independent System Operator Corporation  
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**Appendix FF**

**Small Generator Interconnection Agreement for Interconnection Requests Processed Under the  
Generator Interconnection and Deliverability Allocation Procedures  
(Appendix DD to the CAISO Tariff)**

This Small Generator Interconnection Agreement ("Agreement") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ ("Participating TO"), the California Independent System Operator Corporation, a California nonprofit public benefit corporation organized and existing under the laws of the State of California ("CAISO") and \_\_\_\_\_ ("Interconnection Customer") each hereinafter sometimes referred to individually as "Party" or referred to collectively as the "Parties."

**Participating TO Information**

Participating TO: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

**CAISO Information**

Attention: \_\_\_\_\_

250 Outcropping Way

Folsom, CA 95630

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_@caiso.com

**Interconnection Customer Information**

Interconnection Customer: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Interconnection Customer Queue Position No: \_\_\_\_\_

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In consideration of the mutual covenants set forth herein, the Parties agree as follows:

**Article 1. Scope and Limitations of Agreement**

- 1.1 This Agreement shall be used for all Small Generating Facility Interconnection Requests submitted under the Generator Interconnection and Transmission Allocation Procedures (GIDAP) set forth in Appendix DD except for those submitted under the 10 kW Inverter Process contained in GIDAP Appendix 7. For those Interconnection Requests, GIDAP Appendix 7 contains the terms and conditions which serve as the Interconnection Agreement.
- 1.2 This Agreement governs the terms and conditions under which the Interconnection Customer's Small Generating Facility will interconnect with, and operate in parallel with, the Participating TO's Transmission System.
- 1.3 This Agreement does not constitute an agreement to purchase or deliver the Interconnection Customer's power. The purchase or delivery of power and other services that the Interconnection Customer may require will be covered under separate agreements, if any. The Interconnection Customer will be responsible for separately making all necessary arrangements (including scheduling) for delivery of electricity in accordance with the CAISO Tariff. Full Capacity Deliverability Status, Partial Capacity Deliverability Status, and Off-Peak Deliverability Status do not confer any priority over other Generating Facilities to deliver Energy; nor provide any warranty or guarantee to deliver any amount of Energy or avoid curtailment at any time.
- 1.4 Nothing in this Agreement is intended to affect any other agreement between or among the Parties.

**1.5 Responsibilities of the Parties**

- 1.5.1 The Parties shall perform all obligations of this Agreement in accordance with all Applicable Laws and Regulations, Operating Requirements, and Good Utility Practice. The Parties shall use the applicable Large Generator Interconnection Agreement to interpret the responsibilities of the Parties under this Agreement.
- 1.5.2 The Interconnection Customer shall construct, interconnect, operate and maintain its Small Generating Facility and construct, operate, and maintain its Interconnection Facilities in accordance with the applicable manufacturer's recommended maintenance schedule, and in accordance with this Agreement, and with Good Utility Practice.
- 1.5.3 The Participating TO shall construct, operate, and maintain its Interconnection Facilities and Upgrades in accordance with this Agreement, and with Good Utility Practice. The CAISO and the Participating TO shall cause the Participating TO's Transmission System to be operated and controlled in a safe and reliable manner and in accordance with this Agreement.
- 1.5.4 The Interconnection Customer agrees to construct its facilities or systems in accordance with applicable specifications that meet or exceed those provided by the National Electrical Safety Code, the American National Standards Institute, IEEE, Underwriter's Laboratory, and Operating Requirements in effect at the time of construction and other applicable national and state codes and standards. The Interconnection Customer agrees to design, install, maintain, and operate its Small Generating Facility so as to reasonably minimize the likelihood of a disturbance adversely affecting or impairing the system or equipment of the Participating TO and any Affected Systems. The Interconnection Customer shall comply with the Participating TO's Interconnection Handbook. In the event of a conflict between the terms of this Agreement and the terms of the Participating TO's Interconnection Handbook, the terms in this Agreement shall govern.

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- 1.5.5** Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Attachments to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the Point of Change of Ownership. The Participating TO and the Interconnection Customer, as appropriate, shall provide Interconnection Facilities that adequately protect the CAISO Controlled Grid, the Participating TO's electric system, the Participating TO's personnel, and other persons from damage and injury. The allocation of responsibility for the design, installation, operation, maintenance and ownership of Interconnection Facilities shall be delineated in the Attachments to this Agreement.
- 1.5.6** The Participating TO and the CAISO shall coordinate with Affected Systems to support the interconnection.
- 1.5.7** For Interconnection Customers that execute or request the un-executed filing of an SGIA on or after October 5, 2016, the Interconnection Customer shall ensure "frequency ride-through" capability and "voltage ride-through" capability of its Small Generating Facility.

**Frequency Conditions.** The CAISO Controlled Grid is designed to automatically activate a load-shed program as required by the Applicable Reliability Standards and the Applicable Reliability Council in the event of an under-frequency system disturbance. The Interconnection Customer shall implement under-frequency and over-frequency protection set points for the Small Generating Facility as required by Applicable Reliability Standards and the Applicable Reliability Council to ensure "ride-through" capability. Small Generating Facility response to frequency deviations of pre-determined magnitudes, both under-frequency and over-frequency deviations, shall be studied and coordinated with the Participating TO and CAISO in accordance with Good Utility Practice. The term "ride-through" as used herein shall mean the ability of a Generating Facility to stay connected to and synchronized with the CAISO Controlled Grid during system disturbances within a range of under-frequency and over-frequency conditions, in accordance with Good Utility Practice. Asynchronous Generating Facilities are subject to the frequency ride-through requirements set forth in Attachment 7.

**Voltage Conditions.** The Interconnection Customer shall ensure "voltage ride-through" capability of its Small Generating Facility. The Interconnection Customer shall enable these capabilities such that its Small Generating Facility shall not disconnect automatically or instantaneously from the system or equipment of the CAISO and any Affected Systems for an under-voltage or over-voltage condition, as tested pursuant to section 2.1 of this Agreement. The defined conditions shall be in accordance with Good Utility Practice and consistent with any standards and guidelines that are applied to other generating facilities in the Balancing Authority Area on a comparable basis. Asynchronous Generating Facilities are subject to the voltage ride-through requirements set forth in Attachment 7.

**1.6 Parallel Operation Obligations**

Once the Small Generating Facility has been authorized to commence parallel operation, the Interconnection Customer shall abide by all rules and procedures pertaining to the parallel operation of the Small Generating Facility in the CAISO Balancing Authority Area, including, but not limited to; 1) the rules and procedures concerning the operation of generation set forth in the CAISO Tariff for the CAISO Controlled Grid and; 2) the Operating Requirements set forth in Attachment 5 of this Agreement.

**1.7 Metering**

The Interconnection Customer shall be responsible for the reasonable and necessary cost for the

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purchase, installation, operation, maintenance, testing, repair, and replacement of metering and data acquisition equipment specified in Attachments 2 and 3 of this Agreement. The Interconnection Customer's metering (and data acquisition, as required) equipment shall conform to applicable industry rules and Operating Requirements.

## **1.8 Reactive Power and Primary Frequency Response**

**1.8.1** For synchronous Generating Facilities, the Interconnection Customer shall design its Small Generating Facility to maintain a composite power delivery at continuous rated power output at the terminals of each generating unit at a power factor within the range of 0.95 leading to 0.90 lagging, unless the CAISO has established different requirements that apply to all similarly situated generators in the CAISO Balancing Authority Area on a comparable basis. The requirements of this paragraph shall not apply to Asynchronous Generating Facilities and the requirements of Attachment 7 shall apply instead except in the following cases: (a) an Interconnection Customer posts Interconnection Financial Security for an Asynchronous Generating Facility pursuant to Appendix DD of the CAISO Tariff Section 11.2.2 on or after September 21, 2016; or (b) an Interconnection Customer that submits an Interconnection Request for an Asynchronous Generating Facility under the Fast Track Process pursuant to Appendix DD of the CAISO Tariff on or after September 16, 2016.

When an Interconnection Customer posts Interconnection Financial Security for an Asynchronous Generating Facility pursuant to Appendix DD of the CAISO Tariff Section 11.2.2 on or after September 21, 2016, the Interconnection Customer will design the Small Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the CAISO has established a different power factor range that applies to all Asynchronous Generating Facilities on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors and reactors, or a combination of the two.

When an Interconnection Customer submits an Interconnection Request for an Asynchronous Generating Facility under the Fast Track Process pursuant to Appendix DD of the CAISO Tariff on or after September 21, 2016, the Interconnection Customer will design the Small Generating Facility to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation at a power factor within the range of 0.95 leading to 0.95 lagging, unless the CAISO has established a different power factor range that applies to all Asynchronous Generating Facilities on a comparable basis. This power factor range standard shall be dynamic and can be met using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors and reactors, or a combination of the two.

**1.8.2** Payment to the Interconnection Customer for reactive power that the Small Generating Facility provides or absorbs when the CAISO requests the Interconnection Customer to operate its Small Generating Facility outside the range specified in Article 1.8.1 will be made by the CAISO in accordance with the applicable provisions of the CAISO Tariff.

**1.8.3 Primary Frequency Response.** Interconnection Customer shall ensure the primary frequency response capability of its Small Generating Facility by installing, maintaining, and operating a functioning governor or equivalent controls. The term "functioning governor or equivalent controls" as used herein shall mean the required hardware and/or software that provides frequency responsive real power control with the ability to sense changes in system frequency and autonomously adjust the Small Generating Facility's

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real power output in accordance with the droop and deadband parameters and in the direction needed to correct frequency deviations. Interconnection Customer is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and  $\pm 0.036$  Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from Applicable Reliability Standards providing for equivalent or more stringent parameters. The droop characteristic shall be: (1) based on the nameplate capacity of the Small Generating Facility, and shall be linear in the range of frequencies between 59 to 61 Hz that are outside of the deadband parameter; or (2) based on Applicable Reliability Standards providing for an equivalent or more stringent parameter. The deadband parameter shall be: the range of frequencies above and below nominal (60 Hz) in which the governor or equivalent controls is not expected to adjust the Small Generating Facility's real power output in response to frequency deviations. The deadband shall be implemented: (1) without a step to the droop curve, that is, once the frequency deviation exceeds the deadband parameter, the expected change in the Small Generating Facility's real power output in response to frequency deviations shall start from zero and then increase (for under-frequency deviations) or decrease (for over-frequency deviations) linearly in proportion to the magnitude of the frequency deviation; or (2) in accordance with Applicable Reliability Standards providing for an equivalent or more stringent parameter. Interconnection Customer shall notify the CAISO that the primary frequency response capability of the Small Generating Facility has been tested and confirmed during commissioning. Once Interconnection Customer has synchronized the Small Generating Facility with the CAISO Controlled Grid, Interconnection Customer shall operate the Small Generating Facility consistent with the provisions specified in Sections 1.8.3.1 and 1.8.3.2 of this SGIA. The primary frequency response requirements contained herein shall apply to both synchronous and non-synchronous Small Generating Facilities.

**1.8.3.1 Governor or Equivalent Controls.** Whenever the Small Generating Facility is operated in parallel with the CAISO Controlled Grid, Interconnection Customer shall operate the Small Generating Facility with its governor or equivalent controls in service and responsive to frequency. Interconnection Customer shall, in coordination with the CAISO, set the deadband parameter to: (1) a maximum of  $\pm 0.036$  Hz and set the droop parameter to a maximum of 5 percent; or (2) implement the relevant droop and deadband settings from Applicable Reliability Standards that provides for equivalent or more stringent parameters. Interconnection Customer shall be required to provide the status and settings of the governor or equivalent controls to the CAISO upon request. If Interconnection Customer needs to operate the Small Generating Facility with its governor or equivalent controls not in service, Interconnection Customer shall immediately notify the CAISO, and provide the following information: (1) the operating status of the governor or equivalent controls (i.e., whether it is currently out of service or when it will be taken out of service); (2) the reasons for removing the governor or equivalent controls from service; and (3) a reasonable estimate of when the governor or equivalent controls will be returned to service. Interconnection Customer shall make Reasonable Efforts to return its governor or equivalent controls into service as soon as practicable. Interconnection Customer shall make Reasonable Efforts to keep outages of the Small Generating Facility's governor or equivalent controls to a minimum whenever the Small Generating Facility is operated in parallel with the CAISO Controlled Grid.

**1.8.3.2 Timely and Sustained Response.** Interconnection Customer shall ensure that the Small Generating Facility's real power response to sustained frequency deviations outside of the deadband setting is automatically provided and shall begin immediately after frequency deviates outside of the deadband, and to the extent the Small Generating Facility has operating capability in the direction needed to correct the frequency deviation. Interconnection Customer shall not

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block or otherwise inhibit the ability of the governor or equivalent controls to respond and shall ensure that the response is not inhibited, except under certain operational constraints including, but not limited to, ambient temperature limitations, physical energy limitations, outages of mechanical equipment, or regulatory requirements. The Small Generating Facility shall sustain the real power response at least until system frequency returns to a value within the deadband setting of the governor or equivalent controls. A FERC-approved Applicable Reliability Standard with equivalent or more stringent requirements shall supersede the above requirements.

**1.8.3.3 Exemptions.** Small Generating Facilities that are regulated by the Nuclear Regulatory Commission shall be exempt from Sections 1.8.3, 1.8.3.1, and 1.8.3.2 of this SGIA. Small Generating Facilities that are behind-the-meter generation that is sized-to-load (i.e., the thermal load and the generation are near-balanced in real-time operation and the generation is primarily controlled to maintain the unique thermal, chemical, or mechanical output necessary for the operating requirements of its host facility) shall be required to install primary frequency response capability in accordance with the droop and deadband capability requirements specified in Section 1.8.3, but shall be otherwise exempt from the operating requirements in Sections 1.8.3, 1.8.3.1, 1.8.3.2, and 1.8.3.4 of this SGIA.

**1.8.3.4 Electric Storage Resources.** Interconnection Customer interconnecting an electric storage resource shall establish an operating range in Attachment 5 of this SGIA that specifies a minimum state of charge and a maximum state of charge between which the electric storage resource will be required to provide primary frequency response consistent with the conditions set forth in Sections 1.8.3, 1.8.3.1, 1.8.3.2, and 1.8.3.3 of this SGIA. Attachment 5 shall specify whether the operating range is static or dynamic, and shall consider: (1) the expected magnitude of frequency deviations in the interconnection; (2) the expected duration that system frequency will remain outside of the deadband parameter in the interconnection; (3) the expected incidence of frequency deviations outside of the deadband parameter in the interconnection; (4) the physical capabilities of the electric storage resource; (5) operational limitations of the electric storage resource due to manufacturer specifications; and (6) any other relevant factors agreed to by the CAISO and Interconnection Customer, and in consultation with the relevant transmission owner or balancing authority as appropriate. If the operating range is dynamic, then Attachment 5 must establish how frequently the operating range will be reevaluated and the factors that may be considered during its reevaluation.

Interconnection Customer's electric storage resource is required to provide timely and sustained primary frequency response consistent with Section 1.8.3.2 of this SGIA when it is online and dispatched to inject electricity to the CAISO Controlled Grid and/or receive electricity from the Participating TO's Transmission System or the CAISO Controlled Grid. This excludes circumstances when the electric storage resource is not dispatched to inject electricity to the CAISO Controlled Grid and/or dispatched to receive electricity from the Participating TO's Transmission System or the CAISO Controlled Grid. If Interconnection Customer's electric storage resource is charging at the time of a frequency deviation outside of its deadband parameter, it is to increase (for over-frequency deviations) or decrease (for under-frequency deviations) the rate at which it is charging in accordance with its droop parameter. Interconnection Customer's electric storage resource is not required to change from charging to discharging, or vice versa, unless the response necessitated by the droop and deadband settings requires it to do so and it is technically capable of making



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such a transition.

**1.9** Capitalized terms used herein shall have the meanings specified in the Glossary of Terms in Attachment 1 or the body of this Agreement.

**1.10 TP Deliverability**

To the extent that an Interconnection Customer is eligible for and has been allocated TP Deliverability pursuant to Section 8.9 of the GIDAP, the Interconnection Customer's right to retain such allocated TP Deliverability shall be contingent upon satisfying the obligations set forth in Section 8.9.3 of the GIDAP.

**Article 2. Inspection, Testing, Authorization, and Right of Access**

**2.1 Equipment Testing and Inspection**

**2.1.1** The Interconnection Customer shall test and inspect its Small Generating Facility and Interconnection Facilities prior to interconnection. The Interconnection Customer shall notify the Participating TO and the CAISO of such activities no fewer than five (5) Business Days (or as may be agreed to by the Parties) prior to such testing and inspection. Testing and inspection shall occur on a Business Day. The Participating TO and the CAISO may, at their own expense, send qualified personnel to the Small Generating Facility site to inspect the interconnection and observe the testing. The Interconnection Customer shall provide the Participating TO and the CAISO a written test report when such testing and inspection is completed.

**2.1.2** The Participating TO and the CAISO shall provide the Interconnection Customer written acknowledgment that they have received the Interconnection Customer's written test report. Such written acknowledgment shall not be deemed to be or construed as any representation, assurance, guarantee, or warranty by the Participating TO or the CAISO of the safety, durability, suitability, or reliability of the Small Generating Facility or any associated control, protective, and safety devices owned or controlled by the Interconnection Customer or the quality of power produced by the Small Generating Facility.

**2.2 Authorization Required Prior to Parallel Operation**

**2.2.1** The Participating TO and the CAISO shall use Reasonable Efforts to list applicable parallel operation requirements in Attachment 5 of this Agreement. Additionally, the Participating TO and the CAISO shall notify the Interconnection Customer of any changes to these requirements as soon as they are known. The Participating TO and the CAISO shall make Reasonable Efforts to cooperate with the Interconnection Customer in meeting requirements necessary for the Interconnection Customer to commence parallel operations by the in-service date.

**2.2.2** The Interconnection Customer shall not operate its Small Generating Facility in parallel with the Participating TO's Transmission System without prior written authorization of the Participating TO. The Participating TO will provide such authorization to the Interconnection Customer and the CAISO once the Participating TO receives notification that the Interconnection Customer has complied with all applicable parallel operation requirements. Such authorization shall not be unreasonably withheld, conditioned, or delayed.

**2.3 Right of Access to Premises**

**2.3.1** Upon reasonable notice, the Participating TO and the CAISO may send a qualified

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person to the premises of the Interconnection Customer at or immediately before the time the Small Generating Facility first produces energy to inspect the interconnection, and observe the commissioning of the Small Generating Facility (including any required testing), startup, and operation for a period of up to three (3) Business Days after initial start-up of the unit. In addition, the Interconnection Customer shall notify the Participating TO and the CAISO at least five (5) Business Days prior to conducting any on-site verification testing of the Small Generating Facility.

**2.3.2** Following the initial inspection process described above, at reasonable hours, and upon reasonable notice, or at any time without notice in the event of an emergency or hazardous condition, the Participating TO and the CAISO shall have access to the Interconnection Customer's premises for any reasonable purpose in connection with the performance of the obligations imposed on it by this Agreement or if necessary to meet its legal obligation to provide service to its customers.

**2.3.3** Each Party shall be responsible for its own costs associated with following this article.

### **Article 3. Effective Date, Term, Termination, and Disconnection**

#### **3.1 Effective Date**

This Agreement shall become effective upon execution by the Parties subject to acceptance by FERC (if applicable), or if filed unexecuted, upon the date specified by the FERC. The Participating TO and the CAISO shall promptly file this Agreement with the FERC upon execution, if required.

#### **3.2 Term of Agreement**

This Agreement shall become effective on the Effective Date and shall remain in effect for a period of \_\_\_\_ years from the Effective Date (term specified in individual agreements to be ten (10) years or such other longer period as the Interconnection Customer may request) and shall be automatically renewed for each successive one-year period thereafter, unless terminated earlier in accordance with Article 3.3 of this Agreement.

#### **3.3 Termination**

No termination shall become effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination, including the filing with FERC of a notice of termination of this Agreement (if required), which notice has been accepted for filing by FERC.

**3.3.1** The Interconnection Customer may terminate this Agreement at any time by giving the Participating TO and the CAISO twenty (20) Business Days written notice.

**3.3.2** Any Party may terminate this Agreement after Default pursuant to Article 7.6.

**3.3.3** Upon termination of this Agreement, the Small Generating Facility will be disconnected from the CAISO Controlled Grid. All costs required to effectuate such disconnection shall be borne by the terminating Party, unless such termination resulted from the non-terminating Party's Default of this Agreement or such non-terminating Party otherwise is responsible for these costs under this Agreement.

**3.3.4** The termination of this Agreement shall not relieve any Party of its liabilities and obligations, owed or continuing at the time of termination.

**3.3.5** The provisions of this article shall survive termination or expiration of this Agreement.

### 3.4 Temporary Disconnection

Temporary disconnection of the Small Generating Facility or associated Interconnection Facilities shall continue only for so long as reasonably necessary under Good Utility Practice.

#### 3.4.1 Emergency Conditions

**“Emergency Condition”** shall mean a condition or situation: (1) that in the judgment of the Party making the claim is imminently likely to endanger life or property; (2) that, in the case of the CAISO, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the CAISO Controlled Grid or the electric systems of others to which the CAISO Controlled Grid is directly connected; (3) that, in the case of the Participating TO, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Participating TO’s Transmission System, the Participating TO’s Interconnection Facilities, Distribution System, or the electric systems of others to which the Participating TO’s electric system is directly connected; or (4) that, in the case of the Interconnection Customer, is imminently likely (as determined in a non-discriminatory manner) to cause a material adverse effect on the security of, or damage to, the Small Generating Facility or the Interconnection Customer’s Interconnection Facilities. Under Emergency Conditions, the CAISO or the Participating TO may immediately suspend interconnection service and temporarily disconnect the Small Generating Facility. The Participating TO or the CAISO shall notify the Interconnection Customer promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the Interconnection Customer’s operation of the Small Generating Facility or the Interconnection Customer’s Interconnection Facilities. The Interconnection Customer shall notify the Participating TO and the CAISO promptly when it becomes aware of an Emergency Condition that may reasonably be expected to affect the CAISO Controlled Grid, the Participating TO’s Interconnection Facilities, or any Affected Systems. To the extent information is known, the notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of the Interconnection Customer’s or Participating TO’s facilities and operations, its anticipated duration, and the necessary corrective action.

#### 3.4.2 Routine Maintenance, Construction, and Repair

The Participating TO or the CAISO may interrupt interconnection service or curtail the output of the Small Generating Facility and temporarily disconnect the Small Generating Facility from the CAISO Controlled Grid when necessary for routine maintenance, construction, and repairs on the CAISO Controlled Grid or the Participating TO’s electric system. The Party scheduling the interruption shall provide the Interconnection Customer with (5) five Business Days notice prior to such interruption. The Party scheduling the interruption shall use Reasonable Efforts to coordinate such reduction or temporary disconnection with the Interconnection Customer.

The Interconnection Customer shall update its planned maintenance schedules in accordance with the CAISO Tariff. The CAISO may request the Interconnection Customer to reschedule its maintenance as necessary to maintain the reliability of the CAISO Controlled Grid in accordance with the CAISO Tariff. Such planned maintenance schedules and updates and changes to such schedules shall be provided by the Interconnection Customer to the Participating TO concurrently with their submittal to the CAISO.

### **3.4.3 Forced Outages**

During any forced outage, the Participating TO or the CAISO may suspend interconnection service to effect immediate repairs on the CAISO Controlled Grid or the Participating TO's electric system. The Participating TO or the CAISO shall use Reasonable Efforts to provide the Interconnection Customer with prior notice. If prior notice is not given, the Participating TO or the CAISO shall, upon request, provide the Interconnection Customer written documentation after the fact explaining the circumstances of the disconnection. The Interconnection Customer shall notify CAISO, as soon as practicable, of all forced outages or reductions of the Small Generating Facility in accordance with the CAISO Tariff.

### **3.4.4 Adverse Operating Effects**

The Participating TO or the CAISO shall notify the Interconnection Customer as soon as practicable if, based on Good Utility Practice, operation of the Small Generating Facility may cause disruption or deterioration of service to other customers served from the same electric system, or if operating the Small Generating Facility could cause damage to the CAISO Controlled Grid, the Participating TO's Transmission System or Affected Systems. Supporting documentation used to reach the decision to disconnect shall be provided to the Interconnection Customer upon request. If, after notice, the Interconnection Customer fails to remedy the adverse operating effect within a reasonable time, the Participating TO or the CAISO may disconnect the Small Generating Facility. The Participating TO or the CAISO shall provide the Interconnection Customer with (5) five Business Day notice of such disconnection, unless the provisions of Article 3.4.1 apply.

### **3.4.5 Modification of the Small Generating Facility**

Prior to making any modifications to the Small Generating Facility before it has achieved its Commercial Operation Date, the Interconnection Customer must first request that the CAISO evaluate whether such modification is a Material Modification and receive written authorization from the Participating TO and the CAISO. Such authorization shall not be unreasonably withheld. Modifications shall be done in accordance with Good Utility Practice. The CAISO may engage the services of the applicable Participating TO to assess the modification. Costs incurred by the Participating TO and CAISO (if any) shall be borne by the party making the request under Section 6.7.2 of Appendix DD, and such costs shall be included in any CAISO invoice for modification assessment activities. If the Interconnection Customer has achieved its Commercial Operation Date, the CAISO and Participating TO(s) will review the requested modification pursuant to Sections 25 and 25.1(c) of the CAISO Tariff. If the Interconnection Customer makes modifications without the Participating TO's and the CAISO's prior written authorization, the Participating TO or the CAISO shall have the right to temporarily disconnect the Small Generating Facility. Any change to the Point of Interconnection, except those deemed acceptable under this article of the GIDAP SGIA or so allowed elsewhere, shall constitute a Material Modification. The Interconnection Customer may then withdraw the proposed modification or proceed with a new Interconnection Request for such modification.

Notwithstanding Section 7.5 of Appendix DD, at any time after achieving its Commercial Operation Date, the Interconnection Customer may reduce the megawatt generating capacities of its Generating Facilities, subject to Section 25.1(c) of the CAISO Tariff. Section 7.5.11 of Appendix DD will still apply to such requests to reduce capacity.

### **3.4.6 Reconnection**

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The Parties shall cooperate with each other to restore the Small Generating Facility, Interconnection Facilities, the Participating TO's electric system, and the CAISO Controlled Grid to their normal operating state as soon as reasonably practicable following a temporary disconnection.

**Article 4. Costs for Interconnection Facilities, and Distribution Upgrades**

**4.1 Interconnection Facilities**

**4.1.1** The Interconnection Customer shall pay for the cost of the Interconnection Facilities itemized in Attachment 2 of this Agreement. The Participating TO shall provide a best estimate cost, including overheads, for the purchase and construction of its Interconnection Facilities and provide a detailed itemization of such costs. Costs associated with Interconnection Facilities may be shared with other entities that may benefit from such facilities by agreement of the Interconnection Customer, such other entities, the CAISO, and the Participating TO.

**4.1.2** The Interconnection Customer shall be responsible for its share of all reasonable expenses, including overheads, associated with (1) owning, operating, maintaining, repairing, and replacing its own Interconnection Facilities, and (2) operating, maintaining, repairing, and replacing the Participating TO's Interconnection Facilities.

**4.2 Distribution Upgrades**

The Participating TO shall design, procure, construct, install, and own the Distribution Upgrades described in Attachment 6 of this Agreement. If the Participating TO and the Interconnection Customer agree, the Interconnection Customer may construct Distribution Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Distribution Upgrades, including overheads, shall be directly assigned to the Interconnection Customer.

**Article 5. Cost Responsibility For Network Upgrades**

**5.1 Applicability**

No portion of this Article 5 shall apply unless the interconnection of the Small Generating Facility requires Network Upgrades.

**5.2 Network Upgrades**

The Participating TO shall design, procure, construct, install, and own the Network Upgrades described in Attachment 6 of this Agreement, except for Merchant Network Upgrades. If the Participating TO and the Interconnection Customer agree, the Interconnection Customer may construct Network Upgrades that are located on land owned by the Interconnection Customer. The actual cost of the Network Upgrades, including overheads, shall be borne initially by the Interconnection Customer. For costs associated with Area Delivery Network Upgrades and Area Off-Peak Network Upgrades, any cost estimates will be advisory in nature and will not be considered as definitive or as establishing a cap on the Maximum Cost Exposure of the Interconnection Customer.

**5.2.1 Merchant Network Upgrades**

If the Interconnection Customer is an Option (B) Interconnection Customer, the Interconnection Customer may elect to have a party other than the applicable

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Participating TO construct some or all of the LDNU and ADNU that the Interconnection Customer has the obligation to fund and that are not subject to reimbursement. Such LDNU and ADNU will be constructed and incorporated into the CAISO Controlled Grid pursuant to the provisions for Merchant Transmission Facilities in CAISO Tariff Sections 24.4.6.1 and 36.11.

### **5.3 Transmission Credits**

No later than thirty (30) calendar days prior to the Commercial Operation Date, the Interconnection Customer may make a one-time election by written notice to the CAISO and the Participating TO to (a) receive Congestion Revenue Rights as defined in and as available under the CAISO Tariff at the time of the election in accordance with the CAISO Tariff, in lieu of a repayment of the cost of Network Upgrades in accordance with Article 5.3.1, and/or (b) decline all or a part of a refund of the cost of Network Upgrades entitled to the Interconnection Customer in accordance with Article 5.3.1.

#### **5.3.1 Repayment of Amounts Advanced for Network Upgrades**

##### **5.3.1.1 Repayment of Amounts Advanced Regarding Non-Phased Generating Facilities**

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 5 or earlier, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to a repayment for the Interconnection Customer's contribution to the cost of Network Upgrades commencing upon the Commercial Operation Date of its Generating Facility.

An Interconnection Customer with a non-Phased Generating Facility in Queue Cluster 6 or later, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has not been tendered an Interconnection Agreement before December 19, 2014, shall be entitled to repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed in service on or before the Commercial Operation Date of its Small Generating Facility, commencing upon the Commercial Operation Date of the Small Generating Facility. Repayment for the Interconnection Customer's contribution to the cost of Network Upgrades placed into service after the Commercial Operation Date of its Small Generating Facility shall, for each of these Network Upgrades, commence no later than the later of: (i) the first month of the calendar year following the year in which the Network Upgrade is placed into service or (ii) 90 days after the Network Upgrade is placed into service.

An Interconnection Customer subject to this Article 5.3.1.1 shall be entitled to repayment for its contribution to the cost of Network Upgrades as follows:

- (a) For Reliability Network Upgrades, the Interconnection Customer shall be entitled to a repayment of the amount paid by the Interconnection Customer for Reliability Network Upgrades up to a maximum amount established in Section 14.3.2.1 of the GIDAP. For purposes of this determination, generating capacity will be based on the capacity of the Interconnection Customer's Generating Facility at the time it achieves Commercial Operation. To the extent that such repayment does not cover all of the costs of the Interconnection Customer's Reliability Network Upgrades, the Interconnection Customer shall receive Merchant

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Transmission CRRs for that portion of its Reliability Network Upgrades that are not covered by cash repayment.

- (b) For Local Delivery Network Upgrades:
  - i. If the Interconnection Customer is an Option (B) Interconnection Customer and has been allocated and continues to be eligible to receive TP Deliverability pursuant to the GIDAP, the Interconnection Customer shall be entitled to repayment of a portion of the total amount paid to the Participating TO for the cost of Local Delivery Network Upgrades for which it is responsible. The repayment amount shall be determined by dividing the amount of TP Deliverability received by the amount of deliverability requested by the Interconnection Customer, and multiplying that percentage by the total amount paid to the Participating TO by the Interconnection Customer for Local Delivery Network Upgrades.
  - ii. If the Interconnection Customer is an Option (B) Interconnection Customer and has not been allocated any TP Deliverability, the Interconnection Customer shall not be entitled to repayment for the cost of Local Delivery Network Upgrades.
  - iii. If the Interconnection Customer is an Option (A) Interconnection Customer, the Interconnection Customer shall be entitled to a repayment equal to the total amount paid to the Participating TO for the costs of Local Delivery Network Upgrades for which it is responsible.
- (c) For Area Delivery Network Upgrades, the Interconnection Customer shall not be entitled to repayment for the costs of Area Delivery Network Upgrades.
- (d) If an Option (B) Interconnection Customer elects and is eligible to construct and own Merchant Network Upgrades as set forth in Article 5.2.1 of this SGIA, then the Interconnection Customer shall not be entitled to any repayment pursuant to this SGIA.

Unless an Interconnection Customer has provided written notice to the CAISO that it is declining all or part of such repayment, such amounts shall include any tax gross-up or other tax-related payments associated with Network Upgrades not refunded to the Interconnection Customer, and shall be paid to the Interconnection Customer by the Participating TO on a dollar-for-dollar basis either through (1) direct payments made on a levelized basis over the five-year period commencing on the applicable date as provided for in this Article 5.3.1.1; or (2) any alternative payment schedule that is mutually agreeable to the Interconnection Customer and Participating TO, provided that such amount is paid within five (5) years of the applicable commencement date. Notwithstanding the foregoing, if this Agreement terminates within five (5) years of the applicable commencement date, the Participating TO's obligation to pay refunds to the Interconnection Customer shall cease as of the date of termination.

- (e) Where the Interconnection Customer finances the construction of Network Upgrades for more than one Participating TO, the cost

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allocation, Interconnection Financial Security, and repayment will be conducted pursuant to Section 14.4.1 of the GIDAP, and set forth in this SGIA,

- (f) For Local Off-Peak Network Upgrades, the Interconnection Customer will be entitled to a repayment equal to the total amount paid to the Participating TO for the costs of Local Delivery Network Upgrades for which it is responsible.

**5.3.1.2 Repayment of Amounts Advanced Regarding Phased Generating Facilities**

Upon the Commercial Operation Date of each phase of a Phased Generating Facility, the Interconnection Customer shall be entitled to a repayment equal to the amount paid to the Participating TO for the cost of Network Upgrades for that completed phase for which the Interconnection Customer is responsible, subject to the limitations specified in Article 5.3.1.1, if the following conditions are satisfied as described below:

- (a) The Small Generating Facility is capable of being constructed in phases;
- (b) The Small Generating Facility is specified in the SGIA as being constructed in phases;
- (c) The completed phase corresponds to one of the phases specified in the SGIA;
- (d) The Interconnection Customer has tendered notice pursuant to the SGIA that the phase has achieved Commercial Operation;
- (e) All parties to the SGIA have agreed that the completed phase meets the requirements set forth in the SGIA and any other operating, metering, and interconnection requirements to permit generation output of the entire capacity of the completed phase as specified in the SGIA;
- (f) The Network Upgrades necessary for the completed phase to meet the desired level of deliverability are in service; and
- (g) The Interconnection Customer has posted one hundred (100) percent of the Interconnection Financial Security required for the Network Upgrades for all the phases of the Small Generating Facility.

Following satisfaction of these conditions (a) through (g), an Interconnection Customer in a Queue Cluster earlier than Queue Cluster 5, or an Interconnection Customer in the Independent Study Process or the Fast Track Process that has been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to receive a partial repayment of its financed cost responsibility, to the extent that it is otherwise eligible for such repayment pursuant to Article 5.3.1.1, in an amount equal to the percentage of the Small Generating Facility declared to be in Commercial Operation multiplied by the cost of the Network Upgrades associated with the completed phase. The Interconnection Customer shall be entitled to repayment in this manner for each completed phase until the entire Small Generating Facility is completed.

Following satisfaction of these conditions (a) through (e) and (g), an Interconnection Customer in Queue Cluster 6 or a later Queue Cluster, or an



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Interconnection Customer in the Independent Study Process or the Fast Track Process that has not been tendered a Generator Interconnection Agreement before December 19, 2014, shall be entitled to receive a repayment of its financed cost responsibility for the Network Upgrades associated with the completed phase that have been placed in service. The Interconnection Customer shall be entitled to repayment in this manner for each completed phase until the entire Small Generating Facility is completed. With respect to any Network Upgrades necessary for a completed phase to meet its desired level of deliverability that are not in service by the time the phase achieves Commercial Operation, repayment for each such Network Upgrade will commence no later than the later of: (i) the first month of the calendar year following the year in which the Network Upgrade is placed into service or (ii) 90 days after the Network Upgrade is placed into service.

If the SGIA includes a partial termination provision and the partial termination right has been exercised with regard to a phase that has not been built, then the Interconnection Customer's eligibility for repayment under this Article 5.3.1.2 as to the remaining phases shall not be diminished. If the Interconnection Customer completes one or more phases and then defaults on the SGIA, the Participating TO and the CAISO shall be entitled to offset any losses or damages resulting from the default against any repayments made for Network Upgrades related to the completed phases, provided that the Party seeking to exercise the offset has complied with any requirements which may be required to apply the stream of payments utilized to make the repayment to the Interconnection Customer as an offset.

Any repayment amount provided pursuant to this Article 5.3.1.2 shall include any tax gross-up or other tax-related payments associated with Network Upgrades not refunded to the Interconnection Customer, and shall be paid to the Interconnection Customer by the Participating TO on a dollar-for-dollar basis either through (1) direct payments made on a levelized basis over the five-year period commencing on the applicable date as provided for in this Article 5.3.1.2; or (2) any alternative payment schedule that is mutually agreeable to the Interconnection Customer and Participating TO, provided that such amount is paid within five (5) years of the applicable commencement date. Notwithstanding the foregoing, if this Agreement terminates within five (5) years of the applicable commencement date, the Participating TO's obligation to pay refunds to the Interconnection Customer shall cease as of the date of termination.

#### **5.3.1.3 Interest Payments and Assignment Rights**

Any repayment shall include interest calculated in accordance with the methodology set forth in FERC's regulations at 18 C.F.R. §35.19a(a)(2)(iii) from the date of any payment for Network Upgrades through the date on which the Interconnection Customer receives a repayment of such payment. Interest shall continue to accrue on the repayment obligation so long as this Agreement is in effect. The Interconnection Customer may assign such repayment rights to any person.

#### **5.3.1.4 Failure to Achieve Commercial Operation**

If the Small Generating Facility fails to achieve commercial operation, but it or another generating facility is later constructed and makes use of the Network Upgrades, the Participating TO shall at that time reimburse Interconnection Customer for the amounts advanced for the Network Upgrades. Before any such reimbursement can occur, the Interconnection Customer, or the entity that

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ultimately constructs the generating facility, if different, is responsible for identifying the entity to which reimbursement must be made.

**5.3.2 Special Provisions for Affected Systems**

The Interconnection Customer shall enter into an agreement with the owner of the Affected System and/or other affected owners of portions of the CAISO Controlled Grid, as applicable, in accordance with the GIDAP. Such agreement shall specify the terms governing payments to be made by the Interconnection Customer to the owner of the Affected System and/or other affected owners of portions of the CAISO Controlled Grid. In no event shall the Participating TO be responsible for the repayment for any facilities that are not part of the Participating TO's Transmission System.

**5.3.3 Rights Under Other Agreements**

Notwithstanding any other provision of this Agreement, nothing herein shall be construed as relinquishing or foreclosing any rights, including but not limited to firm transmission rights, capacity rights, transmission congestion rights, or transmission credits, that the Interconnection Customer shall be entitled to, now or in the future, under any other agreement or tariff as a result of, or otherwise associated with, the transmission capacity, if any, created by the Network Upgrades, including the right to obtain cash reimbursements or transmission credits for transmission service that is not associated with the Small Generating Facility.

**5.3.4 Compensation for Customer-Funded Upgrades Utilized by Subsequent Interconnection Customers.**

If the Interconnection Customer funds Network Upgrades for which it is not eligible for repayment, the Interconnection Customer will be entitled to direct compensation by any Interconnection Customers in later Queue Clusters that utilize such Network Upgrades. Such compensation will be determined based on the distribution flow factors of the Generating Facilities that will be using the Network Upgrades.

**Article 6. Billing, Payment, Milestones, and Financial Security**

**6.1 Billing and Payment Procedures and Final Accounting**

**6.1.1** The Participating TO shall bill the Interconnection Customer for the design, engineering, construction, and procurement costs of Interconnection Facilities and Upgrades contemplated by this Agreement on a monthly basis, or as otherwise agreed by the Parties. The Interconnection Customer shall pay each bill within thirty (30) calendar days of receipt, or as otherwise agreed to by the Parties. Notwithstanding the foregoing, any invoices between the CAISO and another Party shall be submitted and paid in accordance with the CAISO Tariff.

**6.1.2** Within six (6) months of completing the construction and installation of the Participating TO's Interconnection Facilities and/or Upgrades described in the Attachments to this Agreement, the Participating TO shall provide the Interconnection Customer with a final accounting report of any difference between (1) the Interconnection Customer's cost responsibility for the actual cost of such facilities or Upgrades, and (2) the Interconnection Customer's previous aggregate payments to the Participating TO for such facilities or Upgrades. If the Interconnection Customer's cost responsibility exceeds its previous aggregate payments, the Participating TO shall invoice the Interconnection Customer for the amount due and the Interconnection Customer shall make payment to the Participating TO within thirty (30) calendar days. If the Interconnection Customer's previous aggregate payments exceed its cost responsibility under this Agreement, the

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Participating TO shall refund to the Interconnection Customer an amount equal to the difference within thirty (30) calendar days of the final accounting report.

**6.2 Milestones**

The Parties shall agree on milestones for which each Party is responsible and list them in Attachment 4 of this Agreement. A Party's obligations under this provision may be extended by agreement. If a Party anticipates that it will be unable to meet a milestone for any reason other than a Force Majeure Event, as defined in Article 7.5.1, it shall immediately notify the other Parties of the reason(s) for not meeting the milestone and (1) propose the earliest reasonable alternate date by which it can attain this and future milestones, and (2) request appropriate amendments to Attachment 4. The Parties affected by the failure to meet a milestone shall not unreasonably withhold agreement to such an amendment unless (1) they will suffer significant uncompensated economic or operational harm from the delay, (2) attainment of the same milestone has previously been delayed, or (3) they have reason to believe that the delay in meeting the milestone is intentional or unwarranted notwithstanding the circumstances explained by the Party proposing the amendment.

**6.3 Interconnection Financial Security Arrangements for Small Generating Facilities Processed Under the Fast Track Process or Small Generating Facilities Processed under SGIP**

The terms and conditions of this Article 6.3 shall apply only to Small Generating Facilities that are no larger than 5 MW that are processed under the Fast Track Process under the GIDAP, CAISO Tariff Appendix DD.

*In such case, the terms of Article 6.4 below do not apply to this Agreement.*

*For easy reference, the Parties shall check the Box below when this Article 6.3 applies:*

**[ ] THIS ARTICLE 6.3 APPLIES**

**6.3.1** At least twenty (20) Business Days prior to the commencement of the design, procurement, installation, or construction of a discrete portion of the Participating TO's Interconnection Facilities and Upgrades, the Interconnection Customer shall provide the Participating TO, at the Interconnection Customer's option, a guarantee, a surety bond, letter of credit or other form of security that is reasonably acceptable to the Participating TO and is consistent with the Uniform Commercial Code of the jurisdiction where the Point of Interconnection is located. Such security for payment shall be in an amount sufficient to cover the costs for constructing, designing, procuring, and installing the applicable portion of the Participating TO's Interconnection Facilities and Upgrades and shall be reduced on a dollar-for-dollar basis for payments made to the Participating TO under this Agreement during its term.

**6.3.2** If a guarantee is provided, the guarantee must be made by an entity that meets the creditworthiness requirements of the Participating TO, and contain terms and conditions that guarantee payment of any amount that may be due from the Interconnection Customer, up to an agreed-to maximum amount.

**6.3.3** If a letter of credit or surety bond is provided, the letter of credit or surety bond must be issued by a financial institution or insurer reasonably acceptable to the Participating TO and must specify a reasonable expiration date.

**6.4 Interconnection Financial Security Arrangements for All Other Small Generating Facilities**

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The terms of this Article 6.4 apply to Small Generating Facilities that have been processed under either the Cluster Study Process or the Independent Study Track Process of the GIDAP set forth in CAISO Tariff Appendix DD. In such case, the provisions of Article 6.3 do not apply to this Agreement.

*In such case, the terms of Article 6.3 above do not apply to this Agreement.*

For easy reference, the Parties shall check the Box below when this Article 6.4 applies:

**[ ] THIS ARTICLE 6.4 APPLIES**

- 6.4.1** The Interconnection Customer is obligated to provide all necessary Interconnection Financial Security required under Section 11 of the GIDAP in a manner acceptable under Section 11 of the GIDAP. Failure by the Interconnection Customer to timely satisfy the GIDAP's requirements for the provision of Interconnection Financial Security shall be deemed a breach of this Agreement and a condition of Default of this Agreement.
- 6.4.2** Notwithstanding any other provision in this Agreement for notice of Default and opportunity to cure such Default, the CAISO or the Participating TO shall provide Interconnection Customer with written notice of any Default due to timely failure to post Interconnection Financial Security, and the Interconnection Customer shall have five (5) Business Days from the date of such notice to cure such Default by posting the required Interconnection Financial Security. If the Interconnection Customer fails to cure the Default, then this Agreement shall be deemed terminated.

**Article 7. Assignment, Liability, Indemnity, Force Majeure, and Default**

**7.1 Assignment**

This Agreement may be assigned by any Party upon fifteen (15) Business Days prior written notice and opportunity to object by the other Parties; provided that:

- 7.1.1** Any Party may assign this Agreement without the consent of the other Parties to any affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement, provided that the Interconnection Customer promptly notifies the Participating TO and the CAISO of any such assignment;
- 7.1.2** The Interconnection Customer shall have the right to assign this Agreement, without the consent of the Participating TO or the CAISO, for collateral security purposes to aid in providing financing for the Small Generating Facility, provided that the Interconnection Customer will promptly notify the Participating TO and the CAISO of any such assignment.
- 7.1.3** Any attempted assignment that violates this article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. An assignee is responsible for meeting the same financial, credit, and insurance obligations as the Interconnection Customer. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed.

**7.2 Limitation of Liability**

Each Party's liability to the other Parties for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its

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performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall any Party be liable to the other Parties for any indirect, special, consequential, or punitive damages, except as authorized by this Agreement.

### **7.3 Indemnity**

- 7.3.1** This provision protects each Party from liability incurred to third parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 7.2.
- 7.3.2** The Parties shall at all times indemnify, defend, and hold the other Parties harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from another Party's action or failure to meet its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.
- 7.3.3** If an indemnified Party is entitled to indemnification under this article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this article, to assume the defense of such claim, such indemnified Party may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.
- 7.3.4** If an indemnifying Party is obligated to indemnify and hold any indemnified Party harmless under this article, the amount owing to the indemnified Party shall be the amount of such indemnified Party's actual loss, net of any insurance or other recovery.
- 7.3.5** Promptly after receipt by an indemnified Party of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this article may apply, the indemnified Party shall notify the indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying Party.

### **7.4 Consequential Damages**

Other than as expressly provided for in this Agreement, no Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profit or revenue, loss of the use of equipment, cost of capital, cost of temporary equipment or services, whether based in whole or in part in contract, in tort, including negligence, strict liability, or any other theory of liability; provided, however, that damages for which a Party may be liable to another Party under another agreement will not be considered to be special, indirect, incidental, or consequential damages hereunder.

### **7.5 Force Majeure**

- 7.5.1** As used in this article, a Force Majeure Event shall mean "any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing by the Party claiming Force Majeure."
- 7.5.2** If a Force Majeure Event prevents a Party from fulfilling any obligations under this

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Agreement, the Party affected by the Force Majeure Event (Affected Party) shall promptly notify the other Parties, either in writing or via the telephone, of the existence of the Force Majeure Event. The notification must specify in reasonable detail the circumstances of the Force Majeure Event, its expected duration, and the steps that the Affected Party is taking to mitigate the effects of the event on its performance. The Affected Party shall keep the other Parties informed on a continuing basis of developments relating to the Force Majeure Event until the event ends. The Affected Party will be entitled to suspend or modify its performance of obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the Force Majeure Event cannot be mitigated by the use of Reasonable Efforts. The Affected Party will use Reasonable Efforts to resume its performance as soon as possible.

**7.6 Default**

**7.6.1** No Default shall exist where such failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement or the result of an act or omission of another Party. Upon a Default, the affected non-defaulting Party(ies) shall give written notice of such Default to the defaulting Party. Except as provided in Article 7.6.2 and in Article 6.4.2, the defaulting Party shall have sixty (60) calendar days from receipt of the Default notice within which to cure such Default; provided however, if such Default is not capable of cure within 60 calendar days, the defaulting Party shall commence such cure within 20 calendar days after notice and continuously and diligently complete such cure within six months from receipt of the Default notice; and, if cured within such time, the Default specified in such notice shall cease to exist.

**7.6.2** If a Default is not cured as provided in this article, or if a Default is not capable of being cured within the period provided for herein, the affected non-defaulting Party(ies) shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not such Party(ies) terminates this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this article will survive termination of this Agreement.

**Article 8. Insurance**

**8.1** The Interconnection Customer shall, at its own expense, maintain in force general liability insurance without any exclusion for liabilities related to the interconnection undertaken pursuant to this Agreement. The amount of such insurance shall be sufficient to insure against all reasonably foreseeable direct liabilities given the size and nature of the generating equipment being interconnected, the interconnection itself, and the characteristics of the system to which the interconnection is made. The Interconnection Customer shall obtain additional insurance only if necessary as a function of owning and operating a generating facility. Such insurance shall be obtained from an insurance provider authorized to do business in the State where the interconnection is located. Certification that such insurance is in effect shall be provided upon request of the Participating TO or CAISO, except that the Interconnection Customer shall show proof of insurance to the Participating TO and CAISO no later than ten Business Days prior to the anticipated Commercial Operation Date. If the Interconnection Customer is of sufficient credit-worthiness, it may propose to self-insure for such liabilities, and such a proposal shall not be unreasonably rejected.

**8.2** The Participating TO agrees to maintain general liability insurance or self-insurance consistent with the Participating TO's commercial practice. Such insurance or self-insurance shall not exclude coverage for the Participating TO's liabilities undertaken pursuant to this Agreement.

**8.3** The CAISO agrees to maintain general liability insurance or self-insurance consistent with the

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CAISO's commercial practice. Such insurance shall not exclude coverage for the CAISO's liabilities undertaken pursuant to this Agreement.

- 8.4** The Parties further agree to notify each other whenever an accident or incident occurs resulting in any injuries or damages that are included within the scope of coverage of such insurance, whether or not such coverage is sought.

**Article 9. Confidentiality**

- 9.1** Confidential Information shall mean any confidential and/or proprietary information provided by one Party to another Party that is clearly marked or otherwise designated "Confidential." For purposes of this Agreement all design, operating specifications, and metering data provided by the Interconnection Customer shall be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such.
- 9.2** Confidential Information does not include information previously in the public domain, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Parties and after exhausting any opportunity to oppose such publication or release), or necessary to be divulged in an action to enforce this Agreement. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without the prior written authorization from the Party providing that information, except to fulfill obligations under this Agreement, or to fulfill legal or regulatory requirements.
- 9.2.1** Each Party shall employ at least the same standard of care to protect Confidential Information obtained from the other Parties as it employs to protect its own Confidential Information.
- 9.2.2** Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages, and may seek other remedies available at law or in equity for breach of this provision.
- 9.3** Notwithstanding anything in this article to the contrary, and pursuant to 18 CFR § 1b.20, if FERC, during the course of an investigation or otherwise, requests information from one of the Parties that is otherwise required to be maintained in confidence pursuant to this Agreement, the Party shall provide the requested information to FERC, within the time provided for in the request for information. In providing the information to FERC, the Party may, consistent with 18 CFR § 388.112, request that the information be treated as confidential and non-public by FERC and that the information be withheld from public disclosure. Parties are prohibited from notifying the other Parties to this Agreement prior to the release of the Confidential Information to FERC. The Party shall notify the other Parties to this Agreement when it is notified by FERC that a request to release Confidential Information has been received by FERC, at which time any of the Parties may respond before such information would be made public, pursuant to 18 CFR § 388.112. Requests from a state regulatory body conducting a confidential investigation shall be treated in a similar manner if consistent with the applicable state rules and regulations.

**Article 10. Disputes**

All disputes arising out of or in connection with this Agreement whereby relief is sought by or from CAISO shall be settled in accordance with the provisions of Article 13 of the CAISO Tariff, except that references to the CAISO Tariff in such Article 13 of the CAISO Tariff shall be read as reference to this Agreement. Disputes arising out of or in connection with this Agreement not subject to provisions of Article 13 of the CAISO Tariff shall be resolved as follows:

- 10.1** The Parties agree to attempt to resolve all disputes arising out of the interconnection process according to the provisions of this article.

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- 10.2** In the event of a dispute, either Party shall provide the other Party with a written Notice of Dispute. Such Notice shall describe in detail the nature of the dispute.
- 10.3** If the dispute has not been resolved within two Business Days after receipt of the Notice, either Party may contact FERC's Dispute Resolution Service (DRS) for assistance in resolving the dispute.
- 10.4** The DRS will assist the Parties in either resolving their dispute or in selecting an appropriate dispute resolution venue (e.g., mediation, settlement judge, early neutral evaluation, or technical expert) to assist the Parties in resolving their dispute. DRS can be reached at 1-877-337-2237 or via the internet at <http://www.ferc.gov/legal/adr.asp>.
- 10.5** Each Party agrees to conduct all negotiations in good faith and will be responsible for one-half of any costs paid to neutral third-parties.
- 10.6** If neither Party elects to seek assistance from the DRS, or if the attempted dispute resolution fails, then either Party may exercise whatever rights and remedies it may have in equity or law consistent with the terms of this Agreement.

**Article 11. Taxes**

- 11.1** The Parties agree to follow all applicable tax laws and regulations, consistent with FERC policy and Internal Revenue Service requirements.
- 11.2** Each Party shall cooperate with the other Parties to maintain the other Parties' tax status. Nothing in this Agreement is intended to adversely affect the Participating TO's tax exempt status with respect to the issuance of bonds including, but not limited to, local furnishing bonds.

**Article 12. Miscellaneous**

**12.1 Governing Law, Regulatory Authority, and Rules**

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the state of \_\_\_\_\_ (where the Point of Interconnection is located), without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.

**12.2 Amendment**

The Parties may amend this Agreement by a written instrument duly executed by all of the Parties, or under Article 12.12 of this Agreement.

**12.3 No Third-Party Beneficiaries**

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.

**12.4 Waiver**

- 12.4.1** The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.



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**12.4.2** Any waiver at any time by any Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or Default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Participating TO. Any waiver of this Agreement shall, if requested, be provided in writing.

**12.5 Entire Agreement**

This Agreement, including all Attachments, constitutes the entire agreement among the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between or among the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.

**12.6 Multiple Counterparts**

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

**12.7 No Partnership**

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership among the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party.

**12.8 Severability**

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

**12.9 Security Arrangements**

Infrastructure security of electric system equipment and operations and control hardware and software is essential to ensure day-to-day reliability and operational security. FERC expects all transmission providers, market participants, and interconnection customers interconnected to electric systems to comply with Applicable Reliability Criteria. All public utilities are expected to meet basic standards for system infrastructure and operational security, including physical, operational, and cyber-security practices.

**12.10 Environmental Releases**

Each Party shall notify the other Parties, first orally and then in writing, of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Small Generating Facility or the Interconnection Facilities, each of which may reasonably be expected to affect the other Parties. The notifying Party shall (1) provide the notice as soon as practicable, provided such Party makes a good faith effort to provide the notice no later than 24 hours after such Party becomes aware of the occurrence, and (2) promptly furnish to the other Parties copies of any publicly available reports filed with any governmental

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authorities addressing such events.

## **12.11 Subcontractors**

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Parties for the performance of such subcontractor.

**12.11.1** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Parties for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Participating TO or the CAISO be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

**12.11.2** The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

## **12.12 Reservation of Rights**

The CAISO and Participating TO shall each have the right to make a unilateral filing with FERC to modify this Agreement pursuant to section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder with respect to the following articles of this Agreement and with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation covered by these articles:

Introductory Paragraph, 1.1, 1.2, 1.3, 1.4, 1.5.1, 1.5.2, 1.5.3, 1.5.4, 1.5.5, 1.5.6, 1.5.7, 1.6, 1.7, 1.8.1, 1.9, 2.1, 2.2.1, 2.3, 3, 4.1.1 (last sentence only), 5.1, 5.3, 6.2, 7, 8, 9, 11, 12, 13, Attachment 1, Attachment 4, Attachment 5, and Attachment 7.

The Participating TO shall have the exclusive right to make a unilateral filing with FERC to modify this Agreement pursuant to section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder with respect to the following articles of this Agreement and with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation covered by these articles:

2.2.2, 4.1.1 (all but the last sentence), 4.1.2, 4.2, 5.2, 6.1.1 (all but the last sentence), 6.1.2, 10 (all but preamble), Attachment 2, Attachment 3 and Attachment 6.

The CAISO shall have the exclusive right to make a unilateral filing with FERC to modify this Agreement pursuant to section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder with respect to the following articles of this Agreement and with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation covered by these articles:

1.8.2, 6.1.1 (last sentence only) and 10 (preamble only).

The Interconnection Customer, the CAISO, and the Participating TO shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the

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right to protest any such filing by another Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise mutually agree as provided herein.

### 12.13 Annual Reassessment Process

In accordance with Section 7.4 of the GIDAP, the CAISO will perform an annual reassessment in which it will update certain base case data prior to beginning the GIDAP Phase II Interconnection Studies. As set forth in Section 7.4 of the GIDAP, the CAISO may determine through this assessment that Delivery Network Upgrades and Off-Peak Network Upgrades already identified and included in executed Generator Interconnection Agreements should be modified in order to reflect the current circumstances of Interconnection Customers in the queue, including any withdrawals therefrom, and any additions and upgrades approved in the CAISO's most recent Transmission Planning Process cycle. To the extent that this determination modifies the scope or characteristics of, or the financial responsibility for, any Delivery Network Upgrades and Off-Peak Network Upgrades determined pursuant to this SGIA, such modification(s) will be reflected through an amendment to this SGIA.

## Article 13. Notices

### 13.1 General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national courier service, conveyed by e-mail, or sent by first class mail, postage prepaid, to the person specified below:

If to the Interconnection Customer:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail address: \_\_\_\_\_

If to the Participating TO:

Participating TO: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail address: \_\_\_\_\_

If to the CAISO:

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California Independent System Operator Corporation

Attention: \_\_\_\_\_

250 Outcropping Way

Folsom, CA 95630

Phone: 916-351-4400 E-mail address: \_\_\_\_\_

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**13.2 Billing and Payment**

Billings and payments shall be sent to the addresses set out below:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Participating TO: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

**13.3 Alternative Forms of Notice**

Any notice or request required or permitted to be given by any Party to the other Parties and not required by this Agreement to be given as provided in Article 13.1 may be so given to the alternate contacts listed in this Article 13.3 by telephone, or e-mail to the telephone numbers and e-mail addresses set out below:

If to the Interconnection Customer:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail address: \_\_\_\_\_

If to the Participating TO:

Participating TO: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail address: \_\_\_\_\_

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If to the CAISO:

California Independent System Operator Corporation

Attention: \_\_\_\_\_

250 Outcropping Way

Folsom, CA 95630

Phone: 916-351-4400

E-mail address: \_\_\_\_\_

**13.4 Designated Operating Representative**

The Parties may also designate operating representatives to conduct the communications which may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

Interconnection Customer's Operating Representative:

Interconnection Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail address: \_\_\_\_\_

Participating TO's Operating Representative:

Participating TO: \_\_\_\_\_

Attention: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail address: \_\_\_\_\_

CAISO's Operating Representative

California Independent System Operator Corporation

Attention: \_\_\_\_\_

250 Outcropping Way

Folsom, CA 95630

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**13.5 Changes to the Notice Information**

Any Party may change this information by giving five Business Days written notice to the other Parties prior to the effective date of the change.

**Article 14. Signatures**

**IN WITNESS WHEREOF**, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the California Independent System Operator Corporation

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

For the Participating TO

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

For the Interconnection Customer

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## Attachment 1

### Glossary of Terms

**Affected System** - An electric system other than the CAISO Controlled Grid that may be affected by the proposed interconnection, including the Participating TO's electric system that is not part of the CAISO Controlled Grid.

**Applicable Laws and Regulations** - All duly promulgated applicable federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any Governmental Authority.

**Area Deliverability Constraint** - A previously identified transmission system operating limit, based on a CAISO interconnection study or transmission planning study and listed on the CAISO website, that would constrain the deliverability of a substantial number of generators if the CAISO were to assign full capacity or partial capacity deliverability status to additional generating facilities in one or more specified geographic or electrical areas of the CAISO Controlled Grid in a total amount that is greater than the TP Deliverability for those areas. May also be a transmission system operating limit that constrains all or most of the same generation already constrained by a previously identified Area Deliverability Constraint.

**Area Delivery Network Upgrade (ADNU)** - A transmission upgrade or addition identified by the CAISO to relieve an Area Deliverability Constraint.

**Area Off-Peak Constraints** - A transmission system operating limit that would cause excessive curtailment to a substantial number of Generating Facilities during Off-Peak Load conditions, as described in Section 6.3.2.2 of Appendix DD and the CAISO Off-Peak Deliverability Assessment posted on the CAISO Website.

**Area Off-Peak Network Upgrades (AOPNUs)** - A transmission upgrade or addition the CAISO identifies in the Transmission Planning Process to relieve an Area Off-Peak Constraint.

**Assigned Network Upgrade (ANU)** - Reliability Network Upgrades, Local Off-Peak Network Upgrades, and Local Delivery Network Upgrades currently assigned to the Interconnection Customer. Assigned Network Upgrades exclude Conditionally Assigned Network Upgrades unless they become Assigned Network Upgrades.

**Balancing Authority Area** - The collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

**Business Day** - Monday through Friday, excluding federal holidays and the day after Thanksgiving Day.

**CAISO Controlled Grid** - The system of transmission lines and associated facilities of the parties to a Transmission Control Agreement that have been placed under the CAISO's Operational Control.

**CAISO Tariff** - The CAISO's tariff, as filed with FERC, and as amended or supplemented from time to time, or any successor tariff.

**Commercial Operation Date** - The date on which a Small Generating Facility commenced generating electricity for sale as agreed upon by the Participating TO and the Interconnection Customer and in accordance with any implementation plan agreed to by the Participating TO and the CAISO for multiple individual generating units or project phases at a Small Generating Facility where an Interconnection Customer intends to establish separate Commercial Operation Dates for those generating units or project phases.

**Conditionally Assigned Network Upgrade (CANU)** - Reliability Network Upgrades and Local Delivery



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Network Upgrades currently assigned to an earlier Interconnection Customer, but which may be assigned to the Interconnection Customer.

**Current Cost Responsibility (CCR)** - The Interconnection Customer's current allocated costs for Assigned Network Upgrades, not to exceed the Maximum Cost Responsibility. This cost is used to calculate the Interconnection Customer's Interconnection Financial Security requirement.

**Default** - The failure of a breaching Party to cure its breach under this Agreement.

**Distribution System** - Those non-CAISO-controlled transmission and distribution facilities owned by the Participating TO.

**Distribution Upgrades** - The additions, modifications, and upgrades to the Participating TO's Distribution System. Distribution Upgrades do not include Interconnection Facilities.

**General Reliability Network Upgrade (GRNU)** - Reliability Network Upgrades that are not Interconnection Reliability Network Upgrades.

**Generator Interconnection and Deliverability Allocation Procedures (GIDAP)** - The CAISO protocol that sets forth the interconnection and allocation procedures applicable to an Interconnection Request pertaining to a Small Generating Facility that is included in CAISO Tariff Appendix DD.

**Good Utility Practice** - Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

**Governmental Authority** - Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, CAISO, Participating TO, or any affiliate thereof.

**Interconnection Facilities** - The Participating TO's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the Small Generating Facility and the Point of Interconnection, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the Small Generating Facility to the Participating TO's Transmission System. Interconnection Facilities are sole use facilities and shall not include Distribution Upgrades or Network Upgrades.

**Interconnection Financial Security (IFS)** - Any of the financial instruments listed in Section 11.1 of the GIDAP that are posted by an Interconnection Customer to finance the construction of facilities or Network Upgrades.

**Interconnection Handbook** - A handbook, developed by the Participating TO and posted on the Participating TO's website or otherwise made available by the Participating TO, describing technical and operational requirements for wholesale generators and loads connected to the Participating TO's Transmission System, as such handbook may be modified or superseded from time to time. The Participating TO's standards contained in the Interconnection Handbook shall be deemed consistent with Good Utility Practice and applicable reliability standards.

**Interconnection Reliability Network Upgrade (IRNU)** - Reliability Network Upgrades at the Point of

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Interconnection to accomplish the physical interconnection of the Generating Facility to the CAISO Controlled Grid. IRNUs are treated as Reliability Network Upgrades unless otherwise noted.

**Interconnection Request** - A request, in accordance with the CAISO Tariff, to interconnect a new Small Generating Facility, or to increase the capacity of, or make a Material Modification to the operating characteristics of, an existing Small Generating Facility that is interconnected with the CAISO Controlled Grid.

**Interconnection Study** -

- (i) For Interconnection Requests processed under the Cluster Study Process described in the GIDAP, any of the following: the Phase I Interconnection Study conducted or caused to be performed by the CAISO, the reassessment of the Phase I Interconnection Study Base Case conducted or caused to be performed by the CAISO prior to the commencement of the Phase II Interconnection Study, or the Phase II Interconnection Study conducted or caused to be performed by the CAISO, pursuant to the GIDAP.
- (ii) For Interconnection Requests processed under the Independent Study Process described in the GIDAP, the governing study(ies) conducted or caused to be performed by the CAISO pursuant to the GIDAP, which shall consist primarily of a system impact and facilities study as described in Section 4.4 of the GIDAP, and, as applicable to Full Capacity Deliverability Status or Partial Deliverability Status, Phase I and Phase Interconnection Studies as described in Section 2.4.3 of the GIDAP.

**Local Deliverability Constraint** - A transmission system operating limit modeled in the GIDAP study process that would be exceeded if the CAISO were to assign full capacity or partial capacity deliverability status to one or more additional generating facilities interconnecting to the CAISO Controlled Grid in a specific local area, and that is not an Area Deliverability Constraint.

**Local Delivery Network Upgrade (LDNU)** - A transmission upgrade or addition identified by the CAISO in the GIDAP study process to relieve a Local Deliverability Constraint.

**Local Off-Peak Constraints** - A transmission system operating limit modeled in the generator interconnection study process that would be exceeded or lead to excessive curtailment, as described in the Off-Peak Deliverability Assessment methodology, if the CAISO were to assign Off-Peak Deliverability Status to one or more Generating Facilities interconnecting to the CAISO Controlled Grid in a specific local area, and that is not an Area Off-Peak Constraint.

**Local Off-Peak Network Upgrades (LOPNUs)** - A transmission upgrade or addition the CAISO identifies in the generator interconnection study process to relieve a Local Off-Peak Constraint.

**Material Modification** - A modification that has a material impact on the cost or timing of any Interconnection Request or any other valid interconnection request with a later queue priority date.

**Maximum Cost Exposure (MCE)** - Pursuant to Appendix DD, the sum of (1) the Interconnection Customer's Maximum Cost Responsibility and (2) the Conditionally Assigned Network Upgrades from its Phase I or Phase II Interconnection Study.

**Maximum Cost Responsibility (MCR)** - Pursuant to Appendix DD, the lower sum of the Interconnection Customer's (1) full cost of assigned Interconnection Reliability Network Upgrades and (2) allocated costs for all other Assigned Network Upgrades, from its Phase I or Phase II Interconnection Studies, not to exceed the Maximum Cost Exposure.

**Merchant Network Upgrades** - Network Upgrades constructed and owned by an Interconnection Customer pursuant to Article 5.2.1 of this SGIA, Section 13.3 of the GIDAP, and Sections 24.4.6.1 and 36.11 of the CAISO Tariff.

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**Network Upgrades** - Additions, modifications, and upgrades to the Participating TO's Transmission System required at or beyond the point at which the Small Generating Facility interconnects with the CAISO Controlled Grid to accommodate the interconnection of the Small Generating Facility with the CAISO Controlled Grid. Network Upgrades do not include Distribution Upgrades.

**Operational Control** - The rights of the CAISO under a Transmission Control Agreement and the CAISO Tariff to direct the parties to the Transmission Control Agreement how to operate their transmission lines and facilities and other electric plant affecting the reliability of those lines and facilities for the purpose of affording comparable non-discriminatory transmission access and meeting applicable reliability criteria.

**Off-Peak Deliverability Constraints** - A transmission system operating limit that constrains Generating Facilities in an area, leading to the excessive curtailment of expected Energy.

**Off-Peak Network Upgrades** - Network Upgrades needed to relieve Off-Peak Deliverability Constraints. Area Off-Peak Network Upgrades address Area Off-Peak Constraints. Local Off-Peak Network Upgrades address Local Off-Peak Constraints.

**Operating Requirements** - Any operating and technical requirements that may be applicable due to the CAISO, Western Electricity Coordinating Council, Balancing Authority Area, or the Participating TO's requirements, including those set forth in this Agreement.

**Option (A) Interconnection Customer** - An Interconnection Customer that elects to interconnect pursuant to Option (A) as set forth in Section 7.2 of the GIDAP.

**Option (B) Interconnection Customer** - An Interconnection Customer that elects to interconnect pursuant to Option (B) as set forth in Section 7.2 of the GIDAP.

**Party or Parties** - The Participating TO, CAISO, Interconnection Customer or the applicable combination of the above.

**Phased Generating Facility** - A Small Generating Facility that is structured to be completed and to achieve Commercial Operation in two or more successive sequences that are specified in this SGIA, such that each sequence comprises a portion of the total megawatt generation capacity of the entire Small Generating Facility.

**Point of Interconnection** - The point where the Interconnection Facilities connect with the Participating TO's Transmission System.

**Precursor Network Upgrades (PNU)** - Network Upgrades required for the Interconnection Customer consisting of (1) Network Upgrades assigned to an earlier Interconnection Customer in an earlier Queue Cluster, Independent Study Process, or Fast Track Process, that has executed its GIA pursuant to Section 14.2.2 of the GIDAP; and (2) Network Upgrades in the approved CAISO Transmission Plan.

**Reasonable Efforts** - With respect to an action required to be attempted or taken by a Party under this Agreement, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

**Reliability Network Upgrades (RNU)** - The transmission facilities at or beyond the Point of Interconnection identified in the Interconnection Studies as necessary to interconnect one or more Generating Facility(ies) safely and reliably to the CAISO Controlled Grid, which would not have been necessary but for the interconnection of one or more Generating Facility(ies), including Network Upgrades necessary to remedy short circuit or stability problems, or system operating limits. Reliability Network Upgrades shall only be deemed necessary for system operating limits, occurring under any system condition, which cannot be adequately mitigated through Congestion Management or Operating Procedures based on the characteristics of the Generating Facilities included in the Interconnection

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Studies, limitations on market models, systems, or information, or other factors specifically identified in the Interconnection Studies. Reliability Network Upgrades also include, consistent with WECC practice, the facilities necessary to mitigate any adverse impact the Generating Facility's interconnection may have on a path's WECC rating. Reliability Network Upgrades include Interconnection Reliability Network Upgrades and General Reliability Network Upgrades.

**Small Generating Facility** - The Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

**TP Deliverability** - The capability, measured in MW, of the CAISO Controlled Grid as modified by transmission upgrades and additions identified in the annual Transmission Plan to support the interconnection with Full Capacity Deliverability Status or Partial Capacity Deliverability Status of additional Generating Facilities in a specified geographic or electrical area of the CAISO Controlled Grid.

**Transmission Control Agreement** - CAISO FERC Electric Tariff No. 7.

**Transmission System** - The facilities owned and operated by the Participating TO and that have been placed under the CAISO's Operational Control, which facilities form part of the CAISO Controlled Grid.

**Upgrades** - The required additions and modifications to the Participating TO's Transmission System and Distribution System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities

**Attachment 2**

**Description and Costs of the Small Generating Facility,**

**Interconnection Facilities, and Metering Equipment**

Equipment, including the Small Generating Facility, Interconnection Facilities, and metering equipment shall be itemized and identified as being owned by the Interconnection Customer or the Participating TO. The Participating TO will provide a best estimate itemized cost, including overheads, of its Interconnection Facilities and metering equipment, and a best estimate itemized cost of the annual operation and maintenance expenses associated with its Interconnection Facilities and metering equipment.

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**Attachment 3**

**One-line Diagram Depicting the Small Generating Facility, Interconnection  
Facilities, Metering Equipment, and Upgrades**

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**Attachment 4**

**Milestones**

In-Service Date: \_\_\_\_\_

Critical milestones and responsibility as agreed to by the Parties:

	Milestone/Date	Responsible Party
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____
(4)	_____	_____
(5)	_____	_____
(6)	_____	_____
(7)	_____	_____
(8)	_____	_____
(9)	_____	_____
(10)	_____	_____

Agreed to by:

For the CAISO \_\_\_\_\_

Date \_\_\_\_\_

For the Participating TO \_\_\_\_\_

Date \_\_\_\_\_

For the Interconnection Customer \_\_\_\_\_

Date \_\_\_\_\_

**Attachment 5**

**Additional Operating Requirements for the CAISO Controlled Grid and Affected Systems Needed  
to Support the Interconnection Customer's Needs**

The Participating TO and the CAISO shall also provide requirements that must be met by the Interconnection Customer prior to initiating parallel operation with the CAISO Controlled Grid.



**Attachment 6**

**Participating TO's Description of its Upgrades and Best Estimate of Upgrade Costs**

The Participating TO shall describe Upgrades and provide an itemized best estimate of the cost, including overheads, of the Upgrades and annual operation and maintenance expenses associated with such Upgrades. The Participating TO shall functionalize Upgrade costs and annual expenses as either transmission or distribution related.

## Attachment 7

### Interconnection Requirements for an Asynchronous Small Generating Facility

Attachment 7 sets forth requirements and provisions specific to all Asynchronous Generating Facilities. Except as provided in Section 25.4.2 of the CAISO tariff, existing individual generating units of an Asynchronous Generating Facility that are, or have been, interconnected to the CAISO Controlled Grid at the same location are exempt from the requirements of this Attachment 7 for the remaining life of the existing generating unit.

#### A. Technical Standards Applicable to Asynchronous Generating Facilities

##### i. Voltage Ride-Through Capability

An Asynchronous Generating Facility shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the requirements below.

1. An Asynchronous Generating Facility shall remain online for the voltage disturbance caused by any fault on the transmission grid, or within the Asynchronous Generating Facility between the Point of Interconnection and the high voltage terminals of the Asynchronous Generating Facility's step up transformer, having a duration equal to the lesser of the normal three-phase fault clearing time (4-9 cycles) or one-hundred fifty (150) milliseconds, plus any subsequent post-fault voltage recovery to the final steady-state post-fault voltage unless clearing the fault effectively disconnects the generator from the system. Clearing time shall be based on the maximum normal clearing time associated with any three-phase fault location that reduces the voltage at the Asynchronous Generating Facility's Point of Interconnection to 0.2 per-unit of nominal voltage or less, independent of any fault current contribution from the Asynchronous Generating Facility.
2. An Asynchronous Generating Facility shall remain online for any voltage disturbance caused by a single-phase fault on the transmission grid, or within the Asynchronous Generating Facility between the Point of Interconnection and the high voltage terminals of the Asynchronous Generating Facility's step up transformer, with delayed clearing, plus any subsequent post-fault voltage recovery to the final steady-state post-fault voltage unless clearing the fault effectively disconnects the generator from the system. Clearing time shall be based on the maximum backup clearing time associated with a single point of failure (protection or breaker failure) for any single-phase fault location that reduces any phase-to-ground or phase-to-phase voltage at the Asynchronous Generating Facility's Point of Interconnection to 0.2 per-unit of nominal voltage or less, independent of any fault current contribution from the Asynchronous Generating Facility.
3. Remaining on-line shall be defined as continuous connection between the Point of Interconnection and the Asynchronous Generating Facility's units, without any mechanical isolation. Momentary cessation (namely, ceasing to inject current during a fault without mechanical isolation) is prohibited unless transient high voltage conditions rise to 1.20 per unit or more. For transient low voltage conditions, the Asynchronous Generating Facility's inverters will inject reactive current. The level of this reactive current must be directionally proportional to the decrease in per unit voltage at the inverter AC terminals. The inverter must produce full reactive current capability when the AC voltage at the inverter terminals drops to a level of 0.50 per unit or below. The Asynchronous

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Generating Facility must continue to operate and absorb reactive current for transient voltage conditions between 1.10 and 1.20 per unit.

Upon the cessation of transient voltage conditions and the return of the grid to normal operating voltage ( $0.90 < V < 1.10$  per unit), the Asynchronous Generating Facility's inverters automatically must transition to normal active (real power) current injection. The Asynchronous Generating Facility's inverters must ramp up to inject active (real power) current with a minimum ramping rate of at least 100% per second (from no output to full available output). The total time to complete the transition from reactive current injection or absorption to normal active (real power) current injection must be one second or less. The total time to return from momentary cessation, if used, during transient high voltage conditions over 1.20 per unit or more must be one second or less.

The Asynchronous Generating Facility's inverter will be considered to have tripped where its AC circuit breaker is open or otherwise has electrically isolated the inverter from the grid. Following an inverter trip, the inverter must make at least one attempt to resynchronize and connect back to the grid unless the trip resulted from a fatal fault code, as defined by the inverter manufacturer. This attempt must take place within 2.5 minutes from the inverter trip. An attempt to resynchronize and connect back to the grid is not required if the trip was initiated due to a fatal fault code, as determined by the original equipment manufacturer.

4. The Asynchronous Generating Facility is not required to remain on line during multi-phased faults exceeding the duration described in Section A.i.1 of this Attachment 7 or single-phase faults exceeding the duration described in Section A.i.2 of this Attachment 7.
5. The requirements of this Section A.i of this Attachment 7 do not apply to faults that occur between the Asynchronous Generating Facility's terminals and the high side of the step-up transformer to the high-voltage transmission system.
6. Asynchronous Generating Facilities may be tripped after the fault period if this action is intended as part of a special protection system.
7. Asynchronous Generating Facilities may meet the requirements of this Section A of this Attachment 7 through the performance of the generating units or by installing additional equipment within the Asynchronous Generating Facility or by a combination of generating unit performance and additional equipment.
8. The provisions of this Section A.i of this Attachment 7 apply only if the voltage at the Point of Interconnection has remained within the range of 0.9 and 1.10 per-unit of nominal voltage for the preceding two seconds, excluding any sub-cycle transient deviations.
9. Asynchronous Generating Facility inverters may not trip or cease to inject current for momentary loss of synchronism. As a minimum, the Asynchronous Generating Facility's inverter controls may lock the phase lock loop to the last synchronized point and continue to inject current into the grid at that last calculated phase prior to the loss of synchronism until the phase lock loop can regain synchronism. The current injection may be limited to protect the inverter. Any inverter may trip if the phase lock loop is unable to regain synchronism 150 milliseconds after loss of synchronism.

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10. Inverter restoration following transient voltage conditions must not be impeded by plant level controllers. If the Asynchronous Generating Facility uses a plant level controller, it must be programmed to allow the inverters to automatically re-synchronize rapidly and ramp up to active current injection (without delayed ramping) following transient voltage recovery, before resuming overall control of the individual plant inverters.

**ii. Frequency Disturbance Ride-Through Capacity**

An Asynchronous Generating Facility shall comply with the off nominal frequency requirements set forth in the NERC Reliability Standard for Generator Frequency and Voltage Protective Relay Settings as they may be amended from time to time.

**iii. Power Factor Design Criteria (Reactive Power)**

An Asynchronous Generating Facility not studied under the Independent Study Process, as set forth in Section 4 of Appendix DD, shall operate within a power factor within the range of 0.95 leading to 0.95 lagging, measured at the high voltage side of the substation transformer, as defined in this SGIA in order to maintain a specified voltage schedule, if the Phase II Interconnection Study shows that such a requirement is necessary to ensure safety or reliability. An Asynchronous Generating Facility studied under the Independent Study Process, as set forth in Section 4 of Appendix DD, shall operate within a power factor within the range of 0.95 leading to 0.95 lagging, measured at the high voltage side of the substation transformer, as defined in this SGIA in order to maintain a specified voltage schedule. The power factor range standards set forth in this section can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two, if agreed to by the Participating TO and CAISO. The Interconnection Customer shall not disable power factor equipment while the Asynchronous Generating Facility is in operation. Asynchronous Generating Facilities shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the Phase II Interconnection Study shows this to be required for system safety or reliability.

**iv. Supervisory Control and Data Acquisition (SCADA) Capability**

An Asynchronous Generating Facility shall provide SCADA capability to transmit data and receive instructions from the Participating TO and CAISO to protect system reliability. The Participating TO and CAISO and the Asynchronous Generating Facility Interconnection Customer shall determine what SCADA information is essential for the proposed Asynchronous Generating Facility, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability.

**v. Power System Stabilizers (PSS)**

Power system stabilizers are not required for Asynchronous Generating Facilities.

**vi. Transient Data Recording Equipment for Facilities**

Asynchronous Generating Facilities must monitor and record data for all frequency ride-through events, transient low voltage disturbances that initiated reactive current injection, reactive current injection or momentary cessation for transient high voltage disturbances, and inverter trips. The data may be recorded and stored in a central plant control system. The following data must be recorded:

**Plant Level:**

- (1) Plant three phase voltage and current
- (2) Status of ancillary reactive devices
- (3) Status of all plant circuit breakers
- (4) Status of plant controller
- (5) Plant control set points
- (6) Position of main plant transformer no-load taps
- (7) Position of main plant transformer tap changer (if extant)
- (8) Protective relay trips or relay target data

**Inverter Level:**

- (1) Frequency, current, and voltage during frequency ride-through events
- (2) Voltage and current during momentary cessation for transient high voltage events (when used)
- (3) Voltage and current during reactive current injection for transient low or high voltage events
- (4) Inverter alarm and fault codes
- (5) DC current
- (6) DC voltage

The data must be time synchronized, using a GPS clock or similar device, to a one millisecond level of resolution. All data except phase angle measuring unit data must be sampled at least every 10 milliseconds. Data recording must be triggered upon detecting a frequency ride-through event, a transient low voltage disturbance that initiated reactive current injection, momentary cessation or reactive current injection for a transient high voltage disturbance, or an inverter trip. Each recording will include as a minimum 150 milliseconds of data prior to the triggering event, and 1000 milliseconds of data after the event trigger. The Asynchronous Generating Facility must store this data for a minimum of 30 days. The Asynchronous Generating Facility will provide all data within 10 calendar days of a request from the CAISO or the Participating TO.

The Asynchronous Generating Facility must install and maintain a phase angle measuring unit or functional equivalent at the entrance to the facility or at the Generating Facility's main substation transformer. The phase angle measuring unit must have a resolution of at least 16 samples per cycle. The Asynchronous Generating Facility will store this data for a minimum of 30 days. The Asynchronous Generating Facility will provide all phase angle measuring unit data within 10 calendar days of a request from the CAISO or the Participating TO.

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**Attachment 8**

**[This Attachment is Intentionally Omitted]**