Threshold question: Has the CAISO determined that any Appendix Y customer who applies for behind the meter expansion under the ISP is governed by the GIDAP? If not, should Appendix Y be modified to mirror the changes here? What about a Serial Study Customer under App U? Does it have the right to submit an ISP modification and if so is that governed by the GIDAP?

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### Appendix A

#### **Master Definition Supplement**

\* \* \*

#### - Generating Facility

An Interconnection Customer's Generating Unit(s) used for the production <a href="mailto:and/or storage for later">and/or storage for later</a>
<a href="mailto:injection">injection</a> of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

Appendix DD

Generator Interconnection and Deliverability Allocation Procedures (GIDAP)

\* \* \*

## **Table of Contents**

# **1 OBJECTIVES AND APPLICABILITY**

1.1 Objectives and Applicability

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\* \* \*

# Section 1 Objectives And Applicability

#### 1.1 Objectives And Applicability

The objective of this Generation Interconnection and Deliverability Allocation Procedures (GIDAP) is to implement the requirements for both Small and Large Generating Facility interconnections to the CAISO Controlled Grid and to provide a process for allocating Transmission Plan Deliverability for Interconnection Requests starting with Queue Cluster 5 and for subsequent Queue Clusters. This GIDAP applies to Interconnection Requests that are either assigned to Queue Cluster 5 and subsequent Queue Clusters, or submitted for the Independent Study Process, or Fast Track Process after [effective date of tariff amendment].

# 1.2 Pre-Application

1.2.1	An Interconne	ction Customer with a proposed Small Generating Facility may submit a
11211	formal written request form along with a non-refundable fee of \$300 for a pre-application	
		posed project at a specific site. The CAISO shall provide the pre-
		ta described in section 1.2.2 to the Interconnection Customer within 20
	Business Days	s of receipt of the completed request form and payment of the \$300 fee.
	The pre-applic	eation report produced by the CAISO is non-binding, does not confer any
	rights, and the	Interconnection Customer must still successfully apply to interconnect to
	the CAISO's s	ystem. The written pre-application report request form shall include the
	information in	sections 1.2.1.1 through 1.2.1.8 below to clearly and sufficiently identify the
	location of the	proposed Point of Interconnection that is under CAISO operational control.
	1.2.1.1	Project contact information, including name, address, phone number,
		and email address.
	1.2.1.2	Project location (street address with nearby cross streets and town).
	1.2.1.3	Single proposed Point of Interconnection that is either an existing
		substation or a transmission line under CAISO operational control.
	1.2.1.4	Congretor Type (e.g. color wind combined best and power etc.)
	1.2.1.4	Generator Type (e.g., solar, wind, combined heat and power, etc.)
	1.2.1.5	Size (alternating current kW/MW)
	1.2.1.6	Single or three phase generator configuration
	4047	Otand alama managatan (na anaita land mat ingludian atatian annia
	1.2.1.7	Stand-alone generator (no onsite load, not including station service – Yes or No?)
		<u>1 es ol 140 : )</u>
	1.2.1.8	Is new service requested? Yes or No? If there is existing service,
		include the customer account number, site minimum and maximum
		current or proposed electric loads in kW/MW (if available) and specify if
		the load is expected to change.
1.2.2 Subject to section 1.2.1, the pre-application report will include the following information:		
	4004	
	1.2.2.1	Electrical configuration of the substation, including information of transmission
		lines terminating in the substation, transformers, buses and other devices, if the
		proposed Point of Interconnection is a substation.
	1.2.2.2	Existing aggregate generation capacity (in MW) interconnected to a substation or
	1121212	circuit (i.e., amount of generation online) likely to serve the proposed Point of
		Interconnection.
	1.2.2.3	Aggregate queued generation capacity (in MW) for a substation or circuit (i.e.,
		amount of generation in the queue) likely to serve the proposed Point of
		Interconnection.
Ì		

- 1.2.2.4 Based on the proposed Point of Interconnection, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit issues, instability issues, facility loading issues, or voltage issues.
- 1.2.3 The pre-application report need only include existing data. A pre-application report request does not obligate the CAISO to conduct a study or other analysis of the proposed generator in the event that data is not readily available. If the CAISO cannot complete all or some of a pre-application report due to lack of available data, the CAISO shall provide the Interconnection Customer with a pre-application report that includes the data that is available. There are many variables studied as part of the interconnection review process, and data provided in the pre-application report may become outdated at the time of the submission of the complete Interconnection Request. Notwithstanding any of the provisions of this section, the CAISO shall, in good faith, include data in the pre-application report that represents the best available information at the time of reporting.

## **Section 2 Scope And Application**

\* \* \*

#### 3.1 General

Pursuant to CAISO Tariff Section 25.1, an Interconnection Customer shall submit to the CAISO an Interconnection Request in the form of Appendix 1 to this GIDAP. The CAISO will forward a copy of the Interconnection Request to the applicable Participating TO within five (5) Business Days of receipt.

The Interconnection Customer shall submit a separate Interconnection Request for each site and may submit multiple Interconnection Requests for a single site. The Interconnection Customer must submit a deposit with each Interconnection Request even when more than one request is submitted for a single site. An Interconnection Request to evaluate one site at two different voltage levels shall be treated as two Interconnection Requests.

An Interconnection Customer with a proposed Small Generating Facility shall be evaluated using the maximum rated capacity that the Small Generating Facility is capable of injecting into the CAISO's electric system. However, if the maximum capacity that the Small Generating Facility is capable of injecting into the CAISO's electric system is limited (e.g., through use of a control system, power relay(s), or other similar device settings or adjustments), then the Interconnection Customer must obtain the CAISO's agreement, with such agreement not to be unreasonably withheld, that the manner in which the Interconnection Customer proposes to implement such a limit will not adversely affect the safety and reliability of the CAISO's system. If the CAISO does not so agree, then the Interconnection Request must be withdrawn or revised to specify the maximum capacity that the Small Generating Facility is capable of injecting into the CAISO's electric system without such limitations. Furthermore, nothing in this section shall prevent the CAISO from considering an output higher than the limited output, if appropriate, when evaluating system protection impacts.

#### Section 4 Independent Study Process

The CAISO, in coordination with the applicable Participating TO(s), will study Interconnection Requests eligible for treatment under this Independent Study Process independently from other Interconnection Requests.

In the event of a conflict between this Section 4 and another provision of this GIDAP, Section 4 shall govern.

# 4.1 Criteria for Independent Study Process Eligibility

Any Interconnection Request that meets the following criteria will be processed under the Independent Study Process:

- 4.1.1 The Interconnection Customer must provide, along with its Interconnection Request, an objective demonstration that inclusion in a Queue Cluster will not accommodate the desired Commercial Operation Date for the Generating Facility. As part of this demonstration, the Interconnection Customer must show that the desired Commercial Operation Date is physically and commercially achievable, by demonstrating allat least two of the following:
  - (i) The Interconnection Customer has obtained, or has demonstrated the ability to obtain, all regulatory approvals and permits needed to complete construction in time to meet the Generating Facility's requested Commercial Operation Date.
  - (ii) The Interconnection Customer is able to provide, or has demonstrated the ability to obtain, a purchase order for generating equipment specific to the proposed Generating Facility, or a statement signed by an officer or authorized agent of the Interconnection Customer demonstrating that the Interconnection Customer has a commitment for the supply of its major generating equipment in time to meet the Commercial Operation Date through a purchase agreement to which the Interconnection Customer is a party.
  - (iii) The Interconnection Customer can provide reasonable evidence of adequate financing or other financial resources necessary to make the Interconnection Financial Security postings required in Sections 11.2 and 11.3.
  - (iv) The Point of Interconnection proposed by the Interconnection Customer must be to either: (1) an existing facility on the CAISO Controlled Grid that does not require any expansion in order to accommodate the interconnection of the Generating Facility; or (2) a facility approved in the Transmission Planning Process or identified as necessary through Interconnection Studies performed for other Interconnection Customers that is fully permitted, is under construction at the time the Interconnection Request is made, and is expected to be in service by the requested Commercial Operation Date of the Generating Facility.
  - (v) With respect to any Reliability Network Upgrades that are anticipated to be needed to interconnect the Generating Facility, and that are already part of an existing plan of service or have been identified as necessary through Interconnection Studies performed for other Interconnection Customers, or have been identified in the Transmission Planning Process, such Reliability Network Upgrades must be either in service or under construction and have a completion date no later than the requested Commercial Operation Date of the Generating Facility.

- **4.1.2** The Interconnection Customer must demonstrate Site Exclusivity.
- 4.1.3 The proposed Generating Facility must be electrically independent of Interconnection Requests included in an existing Queue Cluster,\_pursuant to -Section 4.2, and, iIn addition, the proposed Generating Facility must be electrically independent of any other Generating Facility that is currently being studied under an earlier-queued Independent Study Process Interconnection Request.
- 4.1.4 The CAISO will inform an Interconnection Customer whether it has satisfied the requirements set forth in Sections 4.1.1 and 4.1.2 of the within thirtyfifteen (3015) calendarBusiness Ddays of receiving the Interconnection Request.
- 4.1.5 The CAISO will inform an Interconnection Customer whether it has satisfied the requirements set forth in that it be electrically independent of other Interconnection Requests, pursuant to Sections 4.1.32 of the, within thirtyfifteen (3015) calendar Business Days of receiving the data necessary to determine whether the Interconnection Customer has satisfied such requirements Interconnection Request. For a proposed Generating Facility in a study area with active Interconnection Requests in the current Queue Cluster or the Independent Study Process, such 30-calendar day period will commence when the Phase I Interconnection Study results are available for the current Queue Cluster and all system impact studies (or combined system impact and facilities studies) have been completed for all earlier-queued Independent Study Process Interconnection Requests in the same study area.
- 4.1.6 Any Interconnection Request that does not satisfy the criteria set forth in Sections 4.1.1, 4.1.2, and 4.1.3 –shall be deemed withdrawn, without prejudice to the Interconnection Customer submitting a request at a later date, unless the Interconnection Customer notifies the CAISO in writing within ten (10) Business Days that it wishes the CAISO to hold the Interconnection Request for inclusion in the next Queue Cluster Window, in which event the CAISO will do so.

# 4.2 Determination of Electrical Independence

An Interconnection Request will qualify for the Independent Study Process without having to demonstrate electrical independence pursuant to this Section 4.2 if, at the time the Interconnection Request is submitted, there are no other active Interconnection Requests in the same study area in the current Queue Cluster or in the Independent Study Process.

Otherwise, an Each Interconnection Request submitted under the Independent Study Process must pass both the flow impact test and all of the short circuit tests for determining electrical independence set forth in this Section 4.2 in order to qualify for the Independent Study Process. These tests will available power flow and short circuit Base Cases that are being used for the most recent Queue Cluster will be used as the starting Base Cases for these testsutilize study results for active Interconnection Requests in the same study area, including Phase I Interconnection study results for Generating Facilities in the current Queue Cluster and any system impact study (or combined system impact and facilities study) results for earlier queued Generating Facilities being studied in the Independent Study Process.

4.2.1 Flow Impact Test/Behind-the-Meter Expansion Criteria

An Interconnection Request shall have satisfied the requirements of this Section if it satisfies, alternatively, either the set of requirements set forth in Section 4.2.1.1 or the set of requirements set forth in Section 4.2.1.2.

#### 4.2.1.1 Requirement Set Number One-: General Independent Study Requests:

The CAISO, in coordination with the applicable Participating TO(s), will perform the flow impact test for an Interconnection Request requesting to be processed under the Independent Study Process as follows:

- Identify the transmission facility closest, in terms of electrical distance, to the proposed Point of Interconnection of the Generating Facility being tested that will be electrically impacted, either as a result of Reliability Network Upgrades identified or reasonably expected to be needed in order to alleviate power flow concerns caused by Generating Facilities currently being studied in a Queue Cluster, or as a result of Reliability Network Upgrades identified or reasonably expected to be needed to alleviate power flow concerns caused by earlier queued Generating Facilities currently being studied through the Independent Study Process. If the current Queue Cluster studies or earlier queued Independent Study Process studies have not yet determined which transmission facilities electrically impacted by the Generating Facility being tested require Reliability Network Upgrades to alleviate power flow concerns, and the CAISO cannot reasonably anticipate whether such transmission facilities will require such Reliability Network Upgrades from other data, then the CAISO will wait to conduct the independence analysis under this section until sufficient information exists in order to make this determination. If the flow impact on a Reliability Network Upgrade identified pursuant to these criteria cannot be tested due to the nature of the Upgrade, then the flow impact test will be performed on the limiting element(s) causing the need for the Reliability Network Upgrade.
- (ii) The incremental power flow on the transmission facility identified in Section 4.2.1.1(i) that is caused by the Generating Facility being tested will be divided by the lesser of the Generating Facility's size or the transmission facility capacity. If the result is five percent (5%) or less, the Generating Facility shall pass the flow impact test. If the Generating Facility being tested is tested against the nearest transmission facility and that transmission facility has been impacted by a cluster that required an upgrade as a result of a contingency, then that contingency will be used when applying the flow impact test.
- (iii) If the Generating Facility being tested under the flow impact test is reasonably expected to impact transmission facilities that were identified, per Section 4.2.1.1(i), when testing one or more earlier queued Generating Facilities currently being studied through the Independent Study Process, then an additional aggregate power flow test shall be performed on these earlier identified transmission facilities. The aggregate power flow test shall require that the aggregated power flow of the Generating Facility being tested, plus the flow of all earlier queued Generating Facilities currently being studied under the Independent Study Process that were tested against the transmission facilities

described in the previous sentence, must be five (5) percent or less of those transmission facilities' capacity.

However, even if the aggregate power flow on any transmission facility tested pursuant to this section (iii) is greater than five (5) percent of the transmission facility's capacity but the incremental power flow as a result of the Generating Facility being tested is one (1) percent or less than of the transmission facility's capacity, the Generating Facility shall pass the test.

If the Generating Facility being tested is tested against the nearest transmission facility and that transmission facility has been impacted by a cluster that required an upgrade as a result of a contingency, then that contingency will be used when applying the flow impact test.

The Generating Facility being tested must pass both this aggregate test as well as the individual flow test described in Section 4.2.1.1(ii), in no particular order.

# 4.2.1.2 Requirement Set Number Two: for Requests for Independent Study of Behind-the-Meter Capacity Expansion of Generating Facilities

This Section 4.2.1.2 applies to an Interconnection Request relating to a behind-the-meter capacity expansion of a Generating Facility. Such an Interconnection Request submitted under the Independent Study Process will satisfy the requirements of Section 4.2.1 if it satisfies all of the following technical and business criteria:

- (i) Technical criteria.
  - 1) The total nameplate capacity of the existing Generating Facility plus the incremental increase in capacity does not exceed in the aggregate one hundred twenty-five (125) percent of its previously studied capacity and the incremental increase in capacity does not exceed, in the aggregate, including any prior behind-the-meter capacity expansions implemented pursuant to this Section 4.2.1.2, one hundred (100) MW.
  - 2) The behind-the-meter capacity expansion shall not take place until after the original Generating Facility has achieved Commercial Operation and all Reliability Network Upgrades for the original Generating Facility have been placed in service. An Interconnection Request for behind-the-meter capacity expansion may be submitted prior to the Commercial Operation Date of the original Generating Facility
  - 3) The expanded capacity for the Generating Facility has been placed under a separate breaker (the expansion breaker) such that the expansion can be metered separately at all times. With the consent of the CAISO and the applicable Participating TO(s), the Interconnection Customer may make the Generating Facilities that will be tied to the expansion breaker a mixture of original and

- expanded facilities such that the total installed capacity behind the expansion breaker is equal to or greater than the planned amount of behind-the-meter capacity expansion.
- 3) The Interconnection Customer must install an automatic generator tripping scheme sufficient to ensure that the total output of the Generating Facility, including the behind-the-meter capacity expansion, does not at any time exceed the capacity studied in the Generating Facility's original Interconnection Request.
- 4) Unless specifically requested by the CAISO, the total output of the Generating Facility does not exceed its originally studied capacity at any time. The CAISO will have the authority to trip the generating equipment subject to the automatic generator tripping scheme or take any other actions necessary to limit the output of the Generating Facility so that expansion breaker if the total output of the Generating Facility does not exceede the originally studied capacity.
- 5The processing of an Interconnection Request for behind-the-meter expansion under the Independent Study Process shall not result in any increase in the rated Generating Facility electrical output (MW capacity) beyond the rating which pre-existed the Interconnection Request. Further, the processed Interconnection Request shall not operate as a basis under the CAISO Tariff to increase the Net Qualifying Capacity of the Generating Facility beyond the rating which pre-existed the Interconnection Request.

# (ii) Business criteria.

- 1) The Deliverability Status (Full Capacity, Partial CapacityDeliverability or Energy-Only) of the original Generating Facility will remain the same after the behind-the-meter capacity expansion. The capacity expansion will have Energy-Onlyis the same as the Deliverability Status, and the original Generating Facility and the behind-the-meter capacity expansion will be metered separately from one another and be assigned separate Resource IDs, except as set forth in (2) below. specified for the formally studied Generating Facility.
- 2) If the original Generating Facility has Full Capacity Deliverability
  Status and the behind-the-meter capacity expansion will use the
  same technology as the original Generating Facility, the
  Interconnection Customer may elect to have the original Generating
  Capacity and the behind-the-meter capacity expansion metered
  together, in which case both the original Generating Facility and the
  behind-the-meter capacity expansion will have Partial Capacity
  Deliverability Status and a separate Resource ID will not be
  established for the behind-the-meter capacity expansion.
- A request for behind-the-meter expansion shall not operate as a basis under the CAISO Tariff to increase the Net Qualifying Capacity

or the Full or Partial Capacity Status of the Generating Facility beyond the rating which pre-existed the Interconnection Request.

42) The GIA <u>will beis</u> amended to reflect the revised operational features of the Generating Facility <u>behind-the-meter</u> capacity expansion.

53) The Interconnection Customer may at any time that the Interconnection Customer's Independent Study Process Interconnection, Request is active request that the CAISO convert the Interconnection Request for behind-the-meter capacity expansion to an Independent Study Process Interconnection Request to evaluate an incremental increase in electrical output (MW generating capacity) for the existing Generating Facility. The Interconnection Customer must accompany such a conversion request with an appropriate Interconnection Study Deposit and agree to comply with other sections of Section 4 applicable to an Independent Study Process Interconnection Request.

#### 4.2.2 Short Circuit Test

The Generating Facility shall pass the short circuit test lif (i) the combined short circuit contribution from all the Generating Facility (existing or proposed) being tested at the transmission facility identified in Section 4.2.1(i) active Interconnection Requests in the Independent Study Process in the same study area is less than five (5) percent of the available capacity of the circuit breaker upgrade identified in Section 4.2.1.1 and; (ii) total fault duty on each circuit breaker upgrade identified for the current Queue Cluster and active Independent Study Process Interconnection Requests in the same study area is less than eighty (80) percent of the nameplate capacity of the respective circuit breaker.100 ampores, the Generating Facility shall pass the short circuit test.

# 4.2.3 Transient Stability Test

The Generating Facility shall pass the transient stability test if the Generating Facility has requested interconnection in a study area where transient stability issues are not identified for active Interconnection Requests in the current Queue Cluster or Independent Study Process.

# 4.2.4 Reactive Support Test

The Generating Facility shall pass the reactive support test if the Generating Facility has requested interconnection in a study area where reactive support needs are not identified as requiring Reliability Network Upgrades for active Interconnection Requests in the current Queue Cluster or Independent Study Process.

## 4.3 Scoping Meeting

Within five (5) Business Days after the CAISO notifies the Interconnection Customer that if the Generating Facility associated with its Interconnection Request has satisfied the <u>electrical</u> independence test set forth in Section 4.2, the CAISO shall establish a date agreeable to the Interconnection Customer and the applicable Participating TO(s) for the Scoping Meeting. With input from the Participating TO, the CAISO shall evaluate

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whether the Interconnection Request is at or near the boundary of an affected Participating TO(s)' service territory or of any other Affected System(s) so as to potentially affect such third parties, and, if such is the case, the CAISO shall invite the affected Participating TO(s) and/or Affected System Operator(s), in accordance with Section 3.7, to the Scoping Meeting by informing such third parties, as soon as practicable, of the time and place of the scheduled Scoping Meeting.

The purpose of the Scoping Meeting shall be to discuss the Interconnection Request and review existing studies relevant to the Interconnection Request. The applicable Participating TO(s) and the CAISO will bring to the meeting, as reasonably necessary to accomplish its purpose, technical data, including, but not limited to, (i) general facility loadings, (ii) general instability issues, (iii) general short circuit issues, (iv) general voltage issues, and (v) general reliability issues. The Interconnection Customer will bring to the Scoping Meeting, in addition to the technical data in Attachment A to Appendix 1, any system studies previously performed. The applicable Participating TO(s), the CAISO, and the Interconnection Customer will also bring to the meeting personnel and other resources as may be reasonably required to accomplish the purpose of the meeting in the time allocated for the meeting. The CAISO shall prepare minutes from the meeting, and provide an opportunity for other attendees and the Interconnection Customer to confirm the accuracy thereof. The Scoping Meeting may be omitted by agreement of the Interconnection Customer, Participating TO, and the CAISO.

The CAISO shall, no later than five (5) Business Days after the Scoping Meeting (or agreement to forego such Scoping Meeting), provide the Interconnection Customer with a Independent Study Process Study Agreement (in the form set forth in Appendix 6 to the GIDAP), which shall contain an outline of the scope of the system impact—and/ facilities studyies and a non-binding good\_faith estimate of the cost to perform the studies\_study. The Interconnection Customer shall return the executed Independent Study Process Study Agreement or request an extension of time for good cause within thirty (30) Business Days thereafter, or the Interconnection Request shall be deemed withdrawn.

# 4.4 System Impact and Facilities Study4.4.1 The system impact and facilities

4.4.2

The system impact and facilities\_study will consist of a short circuit analysis, a stability analysis, a power flow analysis, an assessment of the potential magnitude of financial impacts, if any, on Local Furnishing Bonds, and a proposed resolution, and any other studies that are deemed necessary.

The system impact and facilities study shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested Interconnection Service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the Interconnection. The system impact/facilities study shall specify and estimate the cost of the equipment, engineering, procurement, and construction work (including overheads) needed to implement the conclusions of the study, including, if applicable, the cost of remedial measures that address the financial impacts, if any, on Local Furnishing Bonds. The system impact/facilities study shall also identify (1) the electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment, (2) the nature and estimated cost of the Participating TO's Interconnection Facilities and Reliability Network Upgrades necessary to accomplish the Interconnection, and (3) an estimate of the time required to complete the construction and installation of such facilities or for

effecting remedial measures that address the financial impacts, if any, on Local Furnishing Bonds.

- 4.4.3 The system impact study shall provide a list of Interconnection Facilities and Reliability

  Network Upgrades that are required as a result of the Interconnection Request along with
  a non-binding goodfaith estimate of cost responsibility and the amount of construction
  time required. The goodfaith estimate will be based on the Per Unit Costs as described in
  Section 6.4.
- The system impact/facilities study will be completed and the results transmitted to the Interconnection Customer within one hundred twentyninety (12090) calendar days after the execution of an Independent Study Process Study Agreement. The Interconnection Customer shall execute the agreement(s) and deliver them to the CAISO, and shall make its initial posting of Interconnection Financial Security in accordance with Section 11.2, or its Interconnection Request shall be deemed withdrawn.
- If requested by the Interconnection Customer, a Results Meeting shall be held among the CAISO, the applicable Participating TO(s), and the Interconnection Customer to discuss the results of the system impact and facilities study report, including assigned cost responsibility. The CAISO shall prepare minutes from the meeting. Any such Results Meeting will be held within twenty (20) Business Days of the date the system impact and facilities study report is provided to the Interconnection Customer.

Should the Interconnection Customer provide written comments on the system impact and facilities study report within ten (10) Business Days of receipt of the report, but in no event less than three (3) Business Days before the Results Meeting conducted to discuss the report, whichever is sooner, the CAISO will address the written comments in the Results Meeting. Should the Interconnection Customer provide comments at any later time (up to the time of the Results Meeting), then such comments shall be considered informal inquiries to which the CAISO will provide informal, informational responses at the Results Meeting, to the extent possible. The Interconnection Customer may submit, in writing, additional comments on the final system impact and facilities study report up to three (3) Business Days following the Results Meeting.

For Interconnection Requests under the Independent Study Process, the initial postings of Interconnection Financial Security described in -Section 11.2-will be based on the cost responsibility for Network Upgrades, and Participating TO's Interconnection Facilities set forth in the system impact and facilities study. If the system impact study is waived, then such posting will be based upon the cost responsibility set forth in the facilities study described in Section 4.5.

# 4.5 Facilities Study

4.5.1

The facilities study shall specify and estimate the cost of the equipment, engineering, procurement, and construction work (including overheads) needed to implement the conclusions of the system impact study, including, if applicable, the cost of remedial measures that address the financial impacts, if any, on Local Furnishing Bonds. The facilities study shall also identify (1) the electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment, (2) the nature and estimated cost of the Participating TO's Interconnection Facilities and upgrades necessary to accomplish the Interconnection, and (3) an estimate of the time required to complete the construction and installation of such facilities or for effecting remedial measures that address the financial impacts, if any, on Local Furnishing Bonds.

- 4.5.2 The facilities study may be waived if the system impact study does not identify any Interconnection Facilities and Reliability Network Upgrades.
- 4.5.3 The facilities study will be completed within ninety (90) calendar days after the Interconnection Customer posts Interconnection Financial Security in accordance with Section11.2 where Network Upgrades are identified. In cases where no Network Upgrades are identified and the required facilities are limited to Interconnection Facilities only, the facilities study will be completed within sixty (60) calendar days after the Interconnection Customer posts Interconnection Financial Security in accordance with Section 11.2.
- 4.5.4 If requested by the Interconnection Customer within ten (10) Business Days of the date of the facilities study report, a Results Meeting shall be held among the CAISO, the applicable Participating TO(s), and the Interconnection Customer to discuss the results of the facilities study report, including assigned cost responsibility. The CAISO shall prepare minutes from the meeting. Any such Results Meeting will be held within twenty (20) Business Days of the date the facilities study report is provided to the Interconnection Customer.
- 4.5.5 For Interconnection Requests under the Independent Study Process, the second posting and third postings of Interconnection Financial Security described in Section 11.3 will be based on the cost responsibility for Network Upgrades and the Participating TO's Interconnection Facilities set forth in the facilities study.

#### 4.6 Deliverability Assessment

Interconnection Customers under the Independent Study Process that request Partial Capacity or Full Capacity Deliverability Status will be deemed to have selected Option (A) under Section 7.2 and will have a Deliverability Assessment performed as part of the next scheduled Phase I and Phase II Interconnection Studies for the Queue Clusters study performed for the next Queue Cluster Window that opens after the CAISO received the request for Partial Capacity or Full Capacity Deliverability Status. If the Deliverability Assessment identifies any LDNUs and ADNUs that are triggered by the Interconnection Request, the Interconnection Customer will be responsible to pay its proportionate share of the costs of those Upgrades, pursuant to Sections 6, 7 and 8. If the Generating Facility (or increase in capacity of an existing Generating Facility) achieves its Commercial Operation Date before the Deliverability Assessment is completed and any necessary Delivery Network Upgrades are in service, the proposed Generating Facility (or increase in capacity) will be treated as an Energy-Only Deliverability Status Generating Facility until such Delivery Network Upgrades are in service. Interconnection Customers requesting behind the meter expansion under Section 4.2.1.2 are not eligible o request Partial Capacity or Full Capacity Deliverability Status in connection with their Independent Study Process Interconnection Request.

# 4.7 Extensions of Commercial Operation Date

Extensions of the Commercial Operation Date for Interconnection Requests under the Independent Study Process will not be granted except for circumstances beyond the control of the Interconnection Customer.

## 4.8 Generator Interconnection Agreement

An Interconnection Customer in the Independent Study Process that requests Partial Capacity or Full Capacity Deliverability Status must still negotiate and execute a GIA reflecting Energy-Only Deliverability Status pursuant to the requirements and timelines

set forth in Section 13. Upon the completion of the Deliverability Assessment per Section 4.6, the Interconnection Customer's GIA will be amended as appropriate to reflect the results thereof.

\* \* \*

#### Section 5 Fast Track Process

## 5.1 Applicability and Initiation of Fast Track Process Request

Applicability to a proposed Generating Facility. An Interconnection Customer may request interconnection of a proposed Generating Facility to the CAISO Controlled Grid under the Fast Track Process if the Generating Facility is no larger than 5 MW and is requesting Energy-Only Deliverability Status and if the Interconnection Customer's proposed Generating Facility meets the codes, standards, and certification requirements of Appendices 9 and 10 of this, or if the applicable Participating TO notifies the CAISO that it has reviewed the design for or tested the proposed Small Generating Facility and has determined that the proposed Generating Facility may interconnect consistent with Reliability Criteria and Good Utility Practice.

Applicability to an existing Generating Facility. If the Interconnection of an existing Generating Facility meets the qualifications for Interconnection under CAISO Tariff Section 25.1(d) or (e) but, at the same time, the Interconnection Customer also seeks to repower or reconfigure the existing Generating Facility in a manner that increases the gross generating capacity by not more than 5 MW, then the Interconnection Customer may request that the Fast Track Process be applied with respect to the repowering or reconfiguration of the existing Generating Facility that results in the incremental increase in MW

<u>Initiating the Fast Track Interconnection Request.</u> To initiate an Interconnection Request under the Fast Track Process, and have the Interconnection Request considered for validation the Interconnection Customer must provide the CAISO with:

- (i) a completed Interconnection Request as set forth in Appendix 1;
- (ii) a non-refundable processing fee of \$500 and a study deposit of \$254,000; and
- (iii) a demonstration of Site Exclusivity. For the Fast Track Process, such demonstration may include documentation reasonably demonstrating a right to locate the Generating Facility on real estate or real property improvements owned, leased, or otherwise legally held by another.

The CAISO shall review and validate the Fast Track Process Interconnection Request pursuant to Section 5.2.

In the event of a conflict between this Section 5 and another provision of this GIDAP, Section 5 shall govern.

# 5.2 Initial Review

Within <u>fifteen thirty</u> (4530) <u>Business-Calendar</u> Days after the CAISO notifies the Interconnection Customer that the Interconnection Request is deemed complete, valid, and ready to be studied, the applicable Participating TO shall perform an initial review using the screens set forth in Section 5.3 below, shall notify the Interconnection Customer of the results, <u>and shall include with the notification copies of the analysisin a report that provides the details of and data underlying the Participating TO's determinations under the screens.</u>

#### 5.3 Screens

- **5.3.1** The proposed Generating Facility must pass the following screens to be eligible for Interconnection under this Fast Track Process:
- **5.3.1.1** The proposed Generating Facility's Point of Interconnection must be on the CAISO Controlled Grid.

The proposed Generating Facility must interconnect to an existing substation with a vacant switch rack position.

5.3.1.2 For interconnection of a proposed Generating Facility to a radial transmission circuit on the CAISO controlled grid, the aggregated generation on the circuit, including the proposed Generating Facility, shall not exceed 15 percent of the line section annual peak load as most recently measured at the substation. For purposes of this Section 5.3.1.2, a line section shall be considered as that portion of a Participating TO's electric system connected to a customer bounded by automatic sectionalizing devices or the end of the transmission line.

This screen will not be required for a proposed interconnection of a Generating Facility to a radial transmission circuit with no load.

In cases where the circuit lacks the telemetry needed to provide the annual peak load measurement data, the CAISO shall use power flow cases from the latest completed Queue Cluster studies (either Phase I or Phase II) to test the proposed Generating Facility using perform this screen.

The proposed Generating Facility, in aggregate with other Generating Facilities on the transmission circuit including proposed Generating Facilities subject to any existing interconnection Request, shall not cause the violation of voltage standards, as set forth in CAISO Planning Standards, on any part of the CAISO Controlled Grid. For interconnection of a proposed Generating Facility to the load side of spot network protectors, the proposed Generating Facility must utilize an inverter-based equipment

package and, together with the aggregated other inverter-based generation, shall not exceed the smaller of 5 percent of a spot network's maximum load or 50 kW. For purposes of this Section 5.3.1.3, a spot network shall be considered as a type of distribution system found in modern commercial buildings for the purpose of providing high reliability of service to a single retail customer.

The CAISO will use power flow cases from the most recently completed Queue Cluster studies (either Phase I or Phase II) to test this screen.

5.3.1.4 The proposed Generating Facility, in the aggregate with other existing or proposed

Generating Facilities on the transmission circuit shall not cause the power flow on any

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part of the CAISO-Controlled Grid to increase by five (5) percent, and shall not exceed eighty (80) percent of the same facility's normal rating.

The CAISO shall use power flow cases from the latest completed Queue Cluster studies (either Phase I or Phase II) to test this screen.

5.3.1.45 The proposed Generating Facility, in aggregation with other existing or proposed Generating Facilities -generation on the transmission circuit, shall not contribute more than 40-five (5) percent to the transmission circuit's maximum fault current at the point on the high voltage (primary) level nearest the proposed point of change of ownership.

The CAISO shall use the short circuit study data from the latest completed Queue Cluster studies (either Phase I or Phase II) to test this screen.

The proposed Generating Facility, in aggregate with other existing or proposed

Generating Facilities generation on the transmission circuit, shall not cause any transmission protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers), or Interconnection Customer equipment on the system to exceed 87.5eighty (80) percent of the short circuit interrupting capability; nor shall the interconnection proposed for a circuit that already exceeds 87.5eighty (80) percent of the short circuit interrupting capability.

The CAISO shall use the short circuit study data from the most recently completed Queue Cluster studies (either Phase I or Phase II) to test this screen.

- 5.3.1.67

  The Generating Facility shall not be permitted to interconnect pursuant to the process set forth in this Section 5 in an area where there are known transient stability limitations, voltage and thermal limitations, or any other known reliability limitations (e.g., existing or new Special Protection Systems) applicable The Generating Facility, in aggregate with other generation interconnected to the transmission side of a substation transformer feeding the circuit where the Generating Facility proposes to interconnect shall not exceed 10 MW in an area where there are known, or posted, transient stability limitations to generating units located in the general electrical vicinity (e.g., three or four transmission busses from the Point of Interconnection).
- 5.3.2 If the proposed interconnection passes the screens<del>and no Upgrades are reasonably anticipated</del>, the Interconnection Request shall be approved <u>subject to a further assessment to identify Interconnection Facilities</u>. This assessment will be performed within sixty (60) calendar days after informing the Interconnection Customer that it has <u>passed the screens</u>. -Within fifteen (15) Business Days thereafter <u>completing this assessment</u>, the Participating TO will provide the Interconnection Customer with a Small Generator Interconnection Agreement for execution.
- 5.3.3 If the proposed interconnection fails the screens and no Upgrades are reasonably anticipated, then in accordance with Section 5.2, the CAISO and Participating TO will provide the Interconnection Customer with copies of all data underlying this conclusion.

  The CAISO and Participating TO will also offer to convene a Customer Options meeting within ten (10) Business Days of its determination in accordance with Section 5.4.but the CAISO and Participating TO determine that the Generating Facility may nevertheless be interconnected consistent with safety, reliability, and power quality standards under these procedures, the Participating TO shall, within fifteen (15) Business Days, provide the

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Interconnection Customer with a Small Generator Interconnection Agreement for execution

5.3.4 If the proposed interconnection passes the screens and Upgrades are reasonably anticipated, the CAISO and Participating TO shall provide the Interconnection Customer with the opportunity to attend a customer options meeting as described in Section 5.4.

## 5.4 Customer Options Meeting

If the CAISO and Participating TO determine the Interconnection Request cannot be approved without modifications at minimal cost; or a supplemental study or other additional studies or actions; or at significant cost to address safety, reliability, or power quality problems, within the five (5) Business Day period after the determination, the CAISO and Participating TO shall notify the Interconnection Customer and provide copies of all data and analyses underlying its conclusion. Within ten (10) Business Days of the CAISO and Participating TO's determination, If the Interconnection Request fails the screens in Section 5.3, the CAISO and Participating TO shall offer to convene a customer options meeting with the CAISO and Participating TO to review the screen analysis and related results and possible Interconnection Customer facility modifications that may permit be or the screen analysis and related results, to determine what further steps are needed to permit the Small Generating Facility to be connected safely and reliably. At the time of notification of the CAISO and Participating TO's determination, or at the customer options meeting, the CAISO and Participating TO shallwill, as appropriate:

5.4.1 (i) Offer tethe Interconnection Customer the opportunity to submit perferm facility modifications to its proposed Generating Facility that the CAISO and Participating TO conclude may allow the proposed Generating Facility to pass the Fast Track screenser modifications to the Participating TO's electric system (e.g., changing meters, fuses, relay settings) and provide a non-binding good faith estimate of the limited cost to make such modifications to the Participating TO's electric system; or

(ii) Offer to perform a supplemental review if the CAISO and Participating TO concludes that the supplemental review might determine that theto determine the scope and cost of the Reliability Network Upgrades required to interconnect the proposed Generating Facility-continue to qualify for interconnection pursuant to the Fast Track Process, and provide a non-binding good faith estimate of the costs of such review.; or

5.4.3 Obtain the Interconnection Customer's agreement to continue evaluating the Interconnection Request under the Independent Study Process or Cluster Study Process.

Within five (5) Business Days of the customer options meeting the Interconnection
Customer shall provide the CAISO with its election on how to proceed with its
Interconnection Request. If the Interconnection Customer choses to withdraw its
Interconnection request it may do so without prejudice to the Interconnection Customer
resubmitting its Interconnection Request for processing in either a Queue Cluster or
under the Independent Study Process.

## 5.5 Supplemental Review

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If the Interconnection Customer agrees to arequests a supplemental review, the CAISO shall provide a non-binding good faith estimate of the cost of the supplemental review within fifteen (15) Business Days of receiving the Interconnection Customer's election. Tthe Interconnection Customer shall agree in writing within fifteen (15) Business Days of the receiving the cost estimate offer, and submit a deposit for the estimated costs in an amount reasonably determined by the CAISO and Participating TO. The Interconnection Customer shall be responsible for the CAISO and Participating TO's actual costs for conducting the supplemental review. The Interconnection Customer must pay any review costs that exceed the deposit within twenty (20) Business Days of receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced costs, the CAISO and Participating TO will return such excess, without interest, within twenty (20) Business Days of the invoice. An Interconnection Customer requesting a Supplemental Review must agree to pay the CAISO for the costs reasonably incurred by the CAISO and/or the Participating in performing the Supplemental Review. The Interconnection Customer agreement to pay for such supplemental review agreement shall be in the a letter to the CAISO set forth in Appendix [ ] acknowledging the Interconnection Customer's request for a Supplemental Review under this section and agreement to submit the advance deposit and to pay reasonable costs incurred to perform the assessment and services associated with any Results Meeting described below in this Section 5.5.

- 5.5.1 Within ten (10) Business Days following receipt of the deposit for a supplemental review, the CAISO and Participating TO will initiate an assessment to determine what facilities would be necessary to reliably and safely connect the Generating Facility.
- 5.5.1.1 This assessment will consist of a short circuit analysis, a stability analysis, a power flow analysis and any other studies that are deemed necessary to determine whether upgrades to the Participating TO's electric system are necessary to safely and reliably interconnect the Small Generating Facility. The assessment shall specify and estimate the cost of the associated equipment, engineering, procurement, and construction work (including overheads) needed to implement the conclusions of the study. This assessment shall also identify (1) the electrical switching configuration of the equipment, including, without limitation, transformer, switchgear, meters, and other station equipment, (2) the nature and estimated cost of the Participating TO's Interconnection, and (3) an estimate of the time required to complete the construction and installation of such facilities or for effecting remedial measures that address the financial impacts, if any, on Local Furnishing Bonds.
- 5.5.1.2 This assessment shall be completed with ninety (90) calendar days following receipt from the Interconnection Customer of the deposit for supplemental review.
- 5.5.1.3 If requested by the Interconnection Customer within ten (10) Business Days following completion of the assessment, a Results Meeting shall be held among the CAISO, the applicable Participating TO(s), and the Interconnection Customer to discuss the results of the assessment. The CAISO shall prepare minutes from the meeting. Any such Results Meeting will be held within twenty (20) Business Days of the date the assessment is provided to the Interconnection Customer.

Should the Interconnection Customer provide written comments on the assessment within ten (10) Business Days of receipt of the assessment, but in no event less than three (3) Business Days before the Results Meeting conducted to discuss the assessment, whichever is sooner, the CAISO will address the written comments in the Results Meeting. Should the Interconnection Customer provide comments at any later

time (up to the time of the Results Meeting), then such comments shall be considered informal inquiries to which the CAISO will provide informal, informational responses at the Results Meeting, to the extent possible. The Interconnection Customer may submit, in writing, additional comments on the final assessment up to three (3) Business Days following the Results Meeting

- 5.5.1.1 If so, then, within fifteen (15) Business Days of such a determination, the Participating TO shall forward a Small Generator Interconnection Agreement to the Interconnection Customer for execution.
- If so, and Interconnection Customer facility modifications are required to allow the Generating Facility to be interconnected consistent with safety, reliability, and power quality standards, the The Participating TO shall forward a Small Generator Interconnection Agreement to the Interconnection Customer for execution within fifteen (15) Business Days after confirmation that the Interconnection Customer has agreed to pay for the identified modifications to the Participating TO's electric systemInterconnection Facilities and Network Upgrades.
- 5.5.1.5 The Interconnection Customer shall be required to post and maintain Interconnection
  Financial Security pursuant to the provisions applicable to Interconnection Requests in
  the Independent Study Process. For this purpose, references to the system impact
  study, facilities study and/or system impact and facilities study shall be read as
  references to the assessment conducted pursuant to the supplemental review.
- 5.5.1.3 If so, and Upgrades to the Participating TO's electric system are required to allow the Small Generating Facility to be interconnected consistent with safety, reliability, and power quality standards, the Participating TO shall forward a Small Generator Interconnection Agreement to the Interconnection Customer for execution within fifteen (15) Business Days that requires the Interconnection Customer to pay the costs of such system modifications prior to interconnection.
- 5.5.2 If not, the Interconnection Request will be deemed withdrawn, without prejudice to the Interconnection Customer resubmitting its Interconnection Request for processing in either a Queue Cluster or under the Independent Study Process.

# Appendix 6

#### GIDAP AGREEMENT FOR INDEPENDENT STUDY PROCESS STUDY AGREEMENT

THIS AGREEMENT is made and entered into this day of , 20 by and between , a organized and existing under the laws of the State of , ("Interconnection Customer") and the California Independent System Operator Corporation, a California nonprofit public benefit corporation existing under the laws of the State of California, ("CAISO"). The Interconnection Customer and the CAISO each may be referred to as a "Party," or collectively as the "Parties"

#### **RECITALS**

WHEREAS, the Interconnection Customer is proposing to develop a Generating Facility or generating capacity addition to an existing Generating Facility consistent with the Interconnection Request submitted by the Interconnection Customer dated \_\_\_\_\_; and

WHEREAS, the Interconnection Customer desires to interconnect the Generating Facility with the CAISO Controlled Grid pursuant to the Independent Study Process; and

WHEREAS, the Interconnection Customer has requested the CAISO to conduct or cause to be performed Interconnection Studies to assess the system impact of interconnecting the Generating Facility to the CAISO Controlled Grid and to specify and estimate the cost of the equipment, engineering, procurement and construction work needed on the Participating TO's electric system in accordance with Good Utility Practice to physically and electrically connect the Generating Facility to the CAISO Controlled Grid:

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein the Parties agree as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated in the CAISO's FERC-approved Generation Interconnection Procedures in CAISO Tariff Appendix DD or the Master Definitions Supplement, Appendix A to the CAISO Tariff, as applicable.
- 2.0 The Interconnection Customer elects and the CAISO shall conduct or cause to be performed Interconnection Studies- in accordance with the CAISO Tariff.
- 3.0 The scope of the applicable Interconnection Studies shall be subject to the assumptions set forth in Appendices A and B to this Agreement.
- 4.0 The Interconnection Studies will be based upon the technical information provided by the Interconnection Customer in the Interconnection Request, as may be modified as the result of the Scoping Meeting, subject to any modifications in accordance with Section 6.1.2 of the GIDAP and modifications to the proposed Commercial Operation Date of the Generating Facility permitted by the GIDAP. The CAISO reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the Interconnection Studies. If the Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the Interconnection Studies may be modified as specified in the .
- 5.0 The Interconnection Study report for each Interconnection Study shall provide the information specified in the GIDAP.
- 6.0 The Interconnection Customer shall provide an Interconnection Study Deposit and other Interconnection Financial Security for the performance of the Interconnection Studies in accordance with the provisions of Sections 3.5.1 and 11 of the GIDAP.

Following the issuance of an Interconnection Study report, the CAISO shall charge and the Interconnection Customer shall pay its share of the actual costs of the Interconnection Study pursuant to Section 3.5.1 of the GIDAP.

Any difference between the deposits made toward the Interconnection Study process and associated administrative costs, including any accelerated studies, and the actual cost of the Interconnection Studies and associated administrative costs shall be paid by or refunded to the Interconnection Customer, in the appropriate allocation, in accordance with Section 3.5.1 of the GIDAP.

- 7.0 Pursuant to Section 3.7 of the GIDAP, the CAISO will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems. The CAISO may provide a copy of the System Impact Study results to an Affected System Operator and the Western Electricity Coordinating Council. Requests for review and input from Affected System Operators or the Western Electricity Coordinating Council may arrive at any time prior to interconnection.
- 8.0 Substantial portions of technical data and assumptions used to perform the System Impact StudyInterconnection Studies, such as system conditions, existing and planned generation, and unit modeling, may change after the CAISO provides the Interconnection Study results to the Interconnection Customer. Interconnection Study results will reflect available data at the time the CAISO provides the System Impact Study report to the Interconnection Customer. The CAISO shall not be responsible for any additional costs, including, without limitation, costs of new or additional facilities, system upgrades, or schedule changes, that may be incurred by the Interconnection Customer as a result of changes in such data and assumptions.
- 9.0 The CAISO shall maintain records and accounts of all costs incurred in performing the Interconnection Studiesy in sufficient detail to allow verification of all costs incurred, including associated overheads. The Interconnection Customer shall have the right, upon reasonable notice, within a reasonable time at the CAISO's offices and at its own expense, to audit the CAISO's records as necessary and as appropriate in order to verify costs incurred by the CAISO. Any audit requested by the Interconnection Customer shall be completed, and written notice of any audit dispute provided to the CAISO representative, within one hundred eighty (180) calendar days following receipt by the Interconnection Customer of the CAISO's notification of the final costs of the Interconnection Study.

## Appendix A

# ASSUMPTIONS USED IN CONDUCTING THE SYSTEM IMPACT AND FACILITIES STUDY

The System Impact and Facilities Study will be based upon the information set forth in the Interconnection Request and agreed upon in the Scoping Meeting held on , subject to any modifications in accordance with Section 6.1.2 of the GIDAP, and the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

Deliverability Status requested (Full Capacity, Partial Capacity Deliverability, or Energy-Only)

. . .

Appendix B Data Form, Pre-System Impact and Facilities Study

DATA FORM TO BE PROVIDED BY THE INTERCONNECTION CUSTOMER PRIOR TO COMMENCEMENT OF THE <u>SYSTEM IMPACT AND</u> FACILITIES STUDY

\* \* \*

#### Appendix EE

#### **Large Generator Interconnection Agreement**

for Interconnection Requests Processed under the Generator Interconnection and Deliverability

Allocation Procedures (Appendix DDCC of the CAISO Tariff)

#### **Article 1. Definitions**

\* \* \*

Generating Facility shall mean the Interconnection Customer's Electric Generating Unit(s) used for the production and/or storage for later injection of electricity identified in the Interconnection Customer's Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

\* \* \*

#### 2.3 Termination Procedures.

- 2.3.1 Written Notice. This LGIA may be terminated by the Interconnection Customer after giving the CAISO and the Participating TO ninety (90) Calendar Days advance written notice, or by the CAISO and the Participating TO notifying FERC after the Generating Facility permanently ceases Commercial Operation.
- 2.3.2 **Default.** A Party may terminate this LGIA in accordance with Article 17.
- 2.3.3 Suspension of Work. This LGIA may be deemed terminated in accordance with Article 5.16, if applicable.
- 2.3.4 Notwithstanding Articles 2.3.1, 2.3.2, and 2.3.3, 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 LGIA (if applicable), which notice has been accepted for filing by FERC, and the Interconnection Customer has fulfilled its termination cost obligations under Article 2.4.

\* \* \*

5.16 [If this LGIA is executed by an Interconnection Customer for an Interconnection Request under the Independent Study Process, this Article 5.16 shall state "Not Used" and shall contain no other provisions.]

**Suspension.** The Interconnection Customer reserves the right, upon written notice to the Participating TO and the CAISO, to suspend at any time all work associated with the construction and installation of the Participating TO's Interconnection Facilities, Network Upgrades, and/or Distribution Upgrades required under this LGIA, other than Network Upgrades identified in the Phase II Interconnection Study as common to multiple generating facilities, with the condition that the Participating TO's electrical system and the CAISO Controlled Grid shall be left in a safe and reliable condition in accordance with Good Utility Practice and the Participating TO's safety and reliability criteria and the CAISO's Applicable Reliability Standards. In such event, the

Interconnection Customer shall be responsible for all reasonable and necessary costs which the Participating TO (i) has incurred pursuant to this LGIA prior to the suspension and (ii) incurs in suspending such work, including any costs incurred to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the Participating TO's electric system during such suspension and, if applicable, any costs incurred in connection with the cancellation or suspension of material, equipment and labor contracts which the Participating TO cannot reasonably avoid; provided, however, that prior to canceling or suspending any such material, equipment or labor contract, the Participating TO shall obtain Interconnection Customer's authorization to do so.

Network Upgrades common to multiple generating facilities, and to which the Interconnection Customer's right of suspension shall not extend, consist of Network Upgrades identified for:

- generating facilities which are the subject of all Interconnection Requests made prior to the Interconnection Customer's Interconnection Request;
- (ii) generating facilities which are the subject of Interconnection Requests within the Interconnection Customer's queue cluster; and
- (iii) generating facilities that are the subject of Interconnection Requests that were made after the Interconnection Customer's Interconnection Request but no later than the date on which the Interconnection Customer's Phase II Interconnection Study Report is issued, and have been modeled in the Base Case at the time the Interconnection Customer seeks to exercise its suspension rights under this Article.

The Participating TO shall invoice the Interconnection Customer for such costs pursuant to Article 12 and shall use due diligence to minimize its costs. In the event Interconnection Customer suspends work required under this LGIA pursuant to this Article 5.16, and has not requested the Participating TO to recommence the work or has not itself recommenced work required under this LGIA in time to ensure that the new projected Commercial Operation Date for the full Generating Facility Capacity of the Large Generating Facility is no more than three (3) years from the Commercial Operation Date identified in Appendix B hereto, this LGIA shall be deemed terminated and the Interconnection Customer's responsibility for costs will be determined in accordance with Article 2.4 of this LGIA. The suspension period shall begin on the date the suspension is requested, or the date of the written notice to the Participating TO and the CAISO, if no effective date is specified.

# Appendix H

## INTERCONNECTION REQUIREMENTS FOR AN ASYNCHRONOUS GENERATING FACILITY

Appendix H sets forth interconnection requirements specific to all Asynchronous Generating Facilities. 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 Appendix H for the remaining life of the existing generating unit. Generating units that are replaced, however, shall meet the requirements of this Appendix H.

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

# i. Low Voltage Ride-Through (LVRT) 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.
- 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. Asynchronous Generating Facilities may cease to inject current into the transmission grid during a fault.
- 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 Appendix H or single-phase faults exceeding the duration described in Section A.i.2 of this Appendix H.
- 5. The requirements of this Section A.i. of this Appendix H 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.

## 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 Point of Interconnection as defined in this LGIA 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 Point of Interconnection as defined in this LGIA 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.

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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)

\* \* \*

# Attachment 1 Glossary Of Terms

\* \* \*

Small Generating Facility – The Interconnection Customer's device for the production <a href="mailto:and/or storage">and/or storage for later injection</a> of electricity identified in the Interconnection Request, but shall not include the Interconnection Customer's Interconnection Facilities.

\* \* :

#### Attachment 7

### Interconnection Requirements for an Asynchronous Small Generating Facility

Attachment 7 sets forth requirements and provisions specific to all Asynchronous Generating Facilities. All other requirements of this Agreement continue to apply to all Asynchronous Generating Facility interconnections.

## A. Technical Standards Applicable to Asynchronous Generating Facilities

## i. Low Voltage Ride-Through (LVRT) Capability

A 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. 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. 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.

- 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. Asynchronous Generating Facilities may cease to inject current into the transmission grid during a fault.
- 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.
- 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.
- 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 <u>requirements</u> 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.

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

An Asynchronous Generating Facility shall comply with the off nominal frequency requirements set forth in the WECC Under Frequency Load Shedding Relay Application Guide or successor requirements 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 Point of Interconnection 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 Point of Interconnection 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.