Appendix A – WDT1697

[redacted]

[redacted]

Queue Cluster 13 Phase II Report

November 22, 2021

This study has been completed in coordination with the California Independent System Operator Corporation (ISO) per Southern California Edison Company's Wholesale Distribution Access Tariff (WDAT), Attachment I Generator Interconnection Procedures (GIP)

Interconnection Study Document History

No.	Date	Document Title	Description of Document
1	11/22/21	Queue Cluster 13 Phase II Appendix A Report	Final Phase II interconnection study report

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A. INTRODUCTION

[redacted]., the Interconnection Customer ("IC"), has submitted a completed Interconnection Request ("IR") to Southern California Edison ("SCE"), the Distribution Provider, for its proposed [redacted] ("Generating Facility"). The IC's IR and/or Attachment B stipulated Full Capacity Deliverability Status ("FCDS") and elected Option A for the Generating Facility. In addition, the IC requested an In-Service Date ("ISD") and Commercial Operating Date ("COD") of 6/1/2024 and 7/1/2024, respectively. However, the ISD and COD for the Generating Facility will depend on the estimated duration required for licensing, engineering, detailed design, procurement, and construction requirements to interconnect the Generating Facility. The estimated duration for these activities would commence after the Generator Interconnection Agreement ("GIA") for the Generating Facility has been executed or filed at the Federal Energy Regulatory Commission ("FERC") for acceptance and funded.

In accordance with FERC's approved SCE's Wholesale Distribution Access Tariff ("WDAT") Attachment I Generator Interconnection Procedures ("GIP"), the Generating Facility was grouped with Queue Cluster 13 ("QC13") Phase II projects to determine the impacts of the group as well as impacts of the Generating Facility on SCE's Distribution System and the ISO Grid. An Area Report and, where applicable, a Subtransmission Assessment Report ("SAR") have been prepared separately to discuss the combined impacts of all projects on the ISO Grid and to the distribution facilities served out of the [redacted] Subtrans System, respectively. This Appendix A report focuses only on the impacts or impact contributions of the Generating Facility to SCE's Electric System and is not intended to supersede any contractual terms or conditions specified in a forthcoming GIA.

B. REPORT OBJECTIVE

SCE performed a QC13 Phase II Study that included the Generating Facility, and this report addresses the results of the analysis.

The report provides the following:

1. Transmission and Distribution system impacts attributed to the proposed Generating Facility.
2. System reinforcements or mitigation necessary to address the adverse impacts attributed to the Generating Facility under various system conditions.
3. A list of required facilities and a good faith estimate of the IC's cost responsibility for its proposed Generating Facility and SCE's project execution schedule[1]. Such information is provided in Attachment 1 and Attachment 2 as separate documents in the Appendix A report package for the Generating Facility.
4. Identification of potential short circuit duty impacts to Affected Systems served from the Transmission, Subtransmission or Distribution System.

Furthermore, since the Generating Facility includes a battery energy storage system("BESS") resource, an "As-Available Charging Distribution Service" analysis to determine the charging impacts on SCE's

[1] It should be noted that construction is only part of the estimated duration of months specified in the study, which includes final engineering, licensing, and other activities required to bring such facilities into service. These durations are from the execution of the GIA, receipt of: all required information, funding, and written authorization to proceed with design and engineering, procurement, and construction from the IC as will be specified in the GIA to commence the work.

Electric System was conducted as well. The analyses focused on the Charging Capacity[2] aspects of the Generating Facility and considered varying levels of system demand with minimal generation dispatch within the local distribution system.

Accordingly, this report also discloses the following:

a. The adequacy of SCE's Electric System to support the Generating Facility under As-Available Charging Distribution Service ("ACDS").

b. Provides a high-level explanation of the potential exposure to the Generating Facility of charging restrictions on the electric system.

c. The service level, which is based on the Point of Interconnection ("POI") of the Generating Facility, enables the IC to determine the applicable As-Available Energy Charge Rate ($/kWh).

C. DESCRIPTION OF GENERATING FACILITY

Generating Facility: all equipment and facilities comprising the IC's [redacted] Generating Facility located in the [redacted] California, as disclosed by the IC in its IR and/or Attachment B, as may have been amended during the Interconnection Study process, as summarized below:

Table A.1: Generating Facility General Information per the IR and/or including Attachment B

[redacted]

Generating Facility Output	Energy Storage
Total rated (gross) capacity at inverter terminals:	[redacted]
Total net capability at high-side of main step-up transformer(s):	
Total net capacity at high-side of main step-up transformer(s):	
Total net capacity at Point of Interconnection ("POI"):	
Generating Facility Charging	
Total rated charging capacity at inverter terminals:	
Total "As-Available" Charging Capacity at high-side of main step-up transformer(s):	
Total "As-Available" Charging Capacity at POI:	

[2] Charging Capacity: The load associated with the storage component of a Generating Facility charged from the Distribution System that is used for later redelivery of the associated energy, net of Resource losses, to the Distribution System. Charging Capacity does not include load that is subject to SCE's retail tariff.

Note: Detailed loss analysis used in defining net capability at high side of main transformer bank and net capacity at the POI

Generation Export Limit for the Generating Facility

The IC has requested a total net capacity of [redacted] as measured at the high-side of the main step-transformer(s) and [redacted] at the POI. The Parties acknowledge that should the Generating Facility exceeds these values or is capable of exceeding these values the IC agrees to: install, own, operate and maintain a control limiting device or, alternatively, by means of configuring the Generating Facility's control system. This is to ensure the Generating Facility does not exceed the total net capacity at the high-side of the main step-up transformer(s) and at the POI.

As-Available Charging Capacity Limit for the Generating Facility

"The IC requested a total Charging Capacity for ACDS of [redacted] as measured at the high-side of the main step-up transformer(s) and [redacted] at the POI. The Parties acknowledge that should the Generating Facility exceed these values or is capable of exceeding these values the IC agrees to install, own, operate and maintain a control limiting device or, alternatively, by means of configuring the Generating Facility's control system. This is to ensure the Generating Facility does not exceed these total Charging Capacity values at the high-side of the main step-up transformer(s) and at the POI.

The scope of facilities, required to interconnect the proposed Generating Facility and provide the requested [redacted] output at the POI taking into account the requested deliverability status and in support of the Charging Capacity for ACDS, are detailed in Attachment 1 to this Appendix A report. The proposed plan for interconnecting the Generating Facility is illustrated in Figure A.1. and Figure A.2 illustrates the proposed location of the Generating Facility. Additional information is provided in Table A.2

Figure A.1: Generating Facility One-Line Diagram

Figure A.2: Generating Facility Location Map

Table A.2: Additional Generating Facility General Information per IR and/or Attachment B

Generating Facility Location	[redacted]
SCE's Planning Area	
Interconnection Voltage	
POI	
Requested net MW at POI[3]	
Number and Types of Generators	
Generation Tie Line	
Main Step-Up Transformer(s) Main Transformers T1	
Collector Equivalent	
Pad-Mount Transformer(s) Downstream of Main Transformer Bank T1	
Generator Data Downstream of Main Transformer Bank T1	
Generator Auxiliary Load and/or Station Light and Power	
Voltage Regulation Devices Downstream of Main Transformer Bank T1	
Dynamic Models Used	

D. STUDY ASSUMPTIONS

For detailed assumptions regarding the evaluation on the SCE Transmission and Subtransmission System, please refer to the QC13 Phase II Area Report and SAR, respectively. Below are the assumptions specific to the proposed Generating Facility:

1. The Generating Facility was modeled as described in Table A.1 and A.2 above.

[3] The MW output at the POI varies under different operating conditions. The IC is reminded that this value is tied to the generation tie-line (gen-tie) losses. The estimated Maximum Net Output value at POI and gen-tie losses illustrated above are contingent upon the accuracy of the technical data provided by the IC and are subject to change should the IC change its gen-tie parameters during the final engineering and design phase of the Generating Facility, and subject to the modification provision in the GIA. Please note that the Generating Facility shall not exceed the total net output of 20 MW at the POI.

2. Wildfire mitigation measures have been incorporated into all of SCE's construction standards and operational practices. SCE has notified interconnection customers with a proposed generating facility and associated Interconnection Facilities to be in, or interconnecting to, an identified high fire risk area ("HFRA") or high fire risk area circuit ("HFRA circuit"). SCE is implementing these measures to address the heightened wildfire risk in HFRAs and HFRA circuits. As a result of implementing these mitigation measures, please be advised that the facilities and their associated costs identified in this Queue Cluster Study (Attachment 1 and Attachment 2) are above and beyond the mitigation identified in previous cluster studies. Furthermore, SCE may develop and implement additional mitigation measures in these HFRAs that are not identified in this study as a means of continuously ensuring the safety and reliability of SCEs Electric System and the public it serves. If this occurs prior to the Generating Facility's ISD, the additional scope and cost will be identified in a technical study report, performed by SCE at the ICs expense, and the GIA will be amended subsequently thereafter.

3. The facilities that will be installed by SCE and the IC are detailed in Attachment 1.

4. Environmental Activities, Permits, and Licensing.

   The assumptions for the Environmental Activities, Permits, and Licensing are as follows:

   i. SCE's scope of work will not require a California Public Utilities Commission ("CPUC") license.

      a. SCE's IFs and DUs needed to interconnect the Generating Facility:

         - SCE will act as the lead for regulatory agency communication for permits issued to SCE covering SCE facilities.
         - SCE environmental activities may include, but are not limited to, the following:
            - Perform all environmental studies and construction monitoring of SCE internal substation construction activities and provide study results to the IC for inclusion in its environmental documents, if applicable.
            - Collaborate with the IC during the environmental study phase on the IC's proposed study methodologies and findings, as studies are being planned and performed for SCE's scope of work.
            - Review IC's California Environmental Quality Act (CEQA)and/or National Environmental Policy Act ("NEPA") documents, technical studies, surveys, and other environmental documentation to ensure SCE's scope of work is adequately described in such documents (IC will include SCE's scope of work in its environmental documents. If the IC's Generating Facility CEQA and/or NEPA documents do not sufficiently incorporate SCE's scope of work, SCE's assumed environmental work and permitting level of effort may increase, resulting in the need to update cost and duration estimates, and amend the GIA).
            - Review SCE's internal existing technical reports/documents when available.
            - Prepare SCE's IF and DU project description, including scope changes during permitting/pre-construction or construction.
            - Communicate scope changes to the IC's environmental team and discuss/approve subsequent actions including new surveys as necessary.
            - Complete General Order 131-D Consistency Determination and Environmental Evaluation.

- Regulatory agency communication, consultation, reporting, and acquisition of SCE permits addressing SCE's facilities and scope of work.
- Prepare environmental requirements for construction clearance.
- Develop communication plan.
- Perform pre-construction coordination field visit.
- Provide Environmental Awareness/Worker Environmental Awareness Program ("WEAP") training.
- Perform construction monitoring oversight for IFs and DUs.
- Complete construction and post-construction site assessments.

- IC performs all environmental studies and prepares draft environmental permit applications related to the installation of SCE's IFs and DUs, except for the SCE internal substation activities as described above. The IC's responsibilities include as applicable, but are not limited to: notifications to the Native American Heritage Commission ("NAHC") and follow-up notifications to the tribes and individuals in the NAHC contact list; performing cultural and paleontological resources records searches, cultural resources inventories (survey and recording), testing and evaluation and/or data recovery of archaeological sites, and appropriate documents in the form of inventory reports, research design and/or data recovery reports; cultural and paleontological monitoring when/if required, and arranging curation agreements for artifacts and fossil specimens collected; performing a California Natural Diversity Database search, habitat assessment, and protocol or focused surveys for species with the potential of occurring in identified suitable habitat; conducting jurisdictional delineations for wetlands or other regulated waters; preparing draft environmental permit applications, pre-construction biological resource surveys for IFs and DUs, biological resource monitoring during construction for IFs and DUs; mitigation costs including, but not limited to, offsite/compensatory mitigation and onsite restoration, and developing mitigation plans or other environmental reports or submittals to support installation of SCE's IFs and DUs.
- Prior to commencing work and during execution of work, the IC should collaborate and obtain SCE concurrence on all work outlined above. Should the IC-performed environmental studies, surveys, or construction monitoring not meet the Federal or State industry standards in accordance with Applicable Laws and Regulations, and as determined by SCE, the IC shall be obligated to remedy deficiencies under SCE's direction.
- The estimated costs provided in this study assume that the IC will perform part of the environmental scope of work that would normally be performed by SCE for SCE-owned IFs and DUs, if applicable, to interconnect the proposed Generating Facility.
- As a requirement for interconnection customers electing to share the responsibility to perform the environmental activities for SCE-owned IFs, DUs as disclosed above, and to ensure proper accounting of costs used in the calculation of the Income Tax Component of Contribution ("ITCC") and Operations & Maintenance ("O&M") charges, referred to as an Interconnection Facilities Charge and/or a Distribution Upgrades Charge, if applicable in the forthcoming GIA for the Generating Facility, the IC is required to complete and submit an Environmental Services Costs Declaration ("Form") for SCE-owned IFs and/or DUs required to interconnect the Generating Facility . An authorized representative of the IC will sign the Form attesting to the actual costs spent on environmental services work that would

otherwise have been performed by SCE for SCE-owned IF and/or DUs required to interconnect the Generating Facility.

The Form shall be provided to SCE by a specified date in the Generating Facility's forthcoming GIA Appendix B - Milestone table. Should the IC fail to provide the Form by the specified deadline, SCE will hold the IC in default of the GIA pursuant to the terms therein. The costs stated by the IC in the Form, once approved, will be used by SCE to adjust the ITCC and the applicable monthly O&M charges for the Generation Facility and will be reflected via an amendment to the GIA upon true-up.

The information stated in the Form is subject to review and/or audit by SCE pursuant to the terms and conditions in the forthcoming GIA. Should an audit be deemed necessary by SCE, the IC will need to provide supporting documentation (copies of invoices/receipts) to substantiate the costs stated in the Form within ten (10) Business Days from receipt of notice.

ii. For further details on the environmental evaluation and permitting/licensing requirements for generation interconnection projects, refer to Appendix K of the Area report.

5. Energy Storage Considerations:
   - SCE offers "As-Available Charging Distribution Service" ("ACDS") pursuant to SCE's WDAT Energy Storage filing under Docket No. ER19-25054 accepted on an interim basis by FERC and effective October 30, 2019. Interconnection customers will be assessed charges for ACDS in accordance with Attachment K to the WDAT.
   - SCE's Distribution Standards and Practices are in the process of being updated to address BESS facilities. The proposed Plan of Service in this report may require changes to comply with SCE's Distribution Standards and Practices.
   - This study assumes that the Generating Facility will include all equipment, software, appropriate controls, and other related equipment necessary to maintain Charging Capacity restrictions per SCE's requirements.
   - The preliminary charging analysis discussed in this report assumed that the requested Charging Capacity is curtailable before wholesale and retail load, and this assumption was used to determine the charging restrictions mentioned in this report for the Generating Facility.
   - The BESS resource of the Generating Facility will need to be metered separately. The IC may be required to install multiple sets of metering (i.e. separate sets of potential transformers & current transformers and supporting metering equipment) for the Generating Facility. Additionally, the Generating Facility may also need to connect the BESS resource to a dedicated transformer.
   - Generation projects with a BESS resource electing to receive ACDS and requesting to interconnect to SCE's Subtransmission System (which is non-ISO controlled 66 kV and 115 kV facilities) will comply and operate pursuant to a static charging schedule in order for SCE to implement charging restrictions until such time SCE's Distributed Energy Resource Management System ("DERMS") is placed in service and operational. The static charging

[4] Link: https://elibrary.ferc gov/eLibrary/filedownload?fileid=15832880

schedule provided to the IC may be updated on an as-needed basis or at a minimum once a year to account for factors such as changes in load, Resources, and Firm Charging Distribution Service, or modifications to the Distribution System.

6. Other Items to Consider:

[redacted]

E. TECHNICAL REQUIREMENTS[5]

1. **Preliminary Protection Requirements**
   Protection requirements are designed and intended to protect SCE's Electric System only. The preliminary protection requirements were based upon the interconnection plan as shown in the one-line diagram depicted in line item number 4 in Attachment 1.

   The IC is responsible for the protection of its own system and equipment and must meet the requirements in the SCE's Interconnection Handbook.

2. **Power Factor Requirements**
   - Asynchronous Generators
     The Generating Facility will be required to maintain a composite power delivery at continuous rated power output at the high-side of the generator substation or other equivalent location. At that point, the generator must provide dynamic reactive power within the power factor range of 0.95 leading to 0.95 lagging. The Generating Facility may meet the dynamic reactive power requirement by utilizing a combination of the inherent dynamic reactive power capability of the inverter, dynamic reactive power devices, and static reactive power devices to make up for losses.

   - Synchronous Generators
     The Generating Facility will be required to maintain a composite power delivery at continuous rated power output at the terminals of the Electric Generating Unit at a power factor within the range of 0.95 leading to 0.90 lagging.

3. **Operating Voltage Requirements**
   Under real-time operations, the Generating Facility will be required to operate in automatic voltage control mode actively controlling voltage as shown in the figure below. The actual values of the reactive power droop, deadband, scheduled voltage setpoint, Vlow and Vhigh will be

[5] The IC is advised that it shall comply with mandatory regulatory standards of but not limited to FERC/NERC/WECC/CPUC and there may be technical requirements in addition to those that outlined above in Section C of this report that are included in the SCE's Interconnection Handbook or that will be addressed in the interconnection customer's generator interconnection agreement.

provided once the Generating Facility executes a GIA and final engineering and design is completed.

4. **Harmonic Requirements**
   The harmonic impact of the subject inverter-based generation was not part of this study. Impacts on voltage distortion levels may be significant due to the penetration level of the Generating Facility with respect to the local distribution grid strength. As with all equipment connected to SCE's Electric System, the Generating Facility will be subject to the provisions of CPUC Rule 2.E, allowing SCE to require the IC to mitigate interference with service to other SCE customers, including harmonic impacts, if the harmonic interference is caused by the IC.

5. **Sub-Synchronous Control Interaction ("SSCI")**

   A detailed screening for SSCI was performed as part of the Phase II study utilizing the technical data in PSLF format (epc and dyd files) provided by the IC. The detailed screening will identify if a detailed Power System Computer Aided Design ("PSCAD") model of the Generating Facility and associated control systems, along with the manufacturer representative's contact information, may be required for further SSCI analysis. If a complete SSCI study is required using the Generating Facility's PSCAD model, this will be done as part of project execution of the Generating Facility and will need to be completed prior to the Generating Facility's initial synchronization date. The SSCI study will identify potential controls interaction that will need to be mitigated by the IC. Any identified mitigation shall be at the expense of the IC.

Conventional synchronous generating facilities are susceptible to Sub-synchronous Interactions including Sub-synchronous Resonance ("SSR") and Sub-synchronous Torsional Interactions ("SSTI") The IC will be 100% responsible for conducting any studies related to SSR or SSTI including screening and/or final engineering studies. The IC will be responsible for performing a SSR or SSTI study as part of project execution and will need to be completed prior to Initial Synchronization Date of the Generating Facility. The SSR or SSTI study will identify any mitigation(s) that will be required. Any identified mitigation shall be at the expense of the IC.

Certain generating units close to series compensated transmission line are required by the CAISO Transmission Planning Process Business Practice Manual[6] to submit an electromagnetic transient model. The PSCAD model, if required, must be submitted within one hundred and twenty (120) calendar days of achieving COD, or from the date of request made by the CAISO, whichever is later.

Please refer to Section G for the results of the SSCI screen.

6. **Low/High Voltage Ride-Through ("LHVRT") and Low/High Frequency Ride-Through ("LHFRT") Capability**

Consistent with PRC-024, the Generating Facility may not trip or cease to inject current within the "no-trip" zone of the frequency and voltage ride through curves of PRC-024. Momentary cessation—ceasing to inject current during a fault—is prohibited unless transient high voltage conditions rise to 1.20 per unit or more. For transient low voltage conditions, the Generating Facility will inject reactive current directionally proportional to the decrease in voltage. The inverter must produce full rating reactive current when the AC voltage at the inverter terminals drops to a level of 0.50 per unit and must continue to operate and attempt to maintain voltage for transient voltage conditions between 1.10 and 1.20 per unit. In addition, the Generating Facility may not trip or cease to inject current for momentary loss of synchrony within the no-trip zone of PRC-024.

7. **Primary Frequency Response Requirement**

Per FERC Order 842, the IC is required to install a governor or equivalent controls with the capability of operating: (1) with a maximum 5 percent droop and ±0.036 Hz deadband; or (2) in accordance with the relevant droop, deadband, and timely and sustained response settings from the Approved Applicable Reliability Standards providing for equivalent or more stringent parameters. The IC shall ensure that the Electric Generating Unit'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 Electric Generating Unit has operating capability in the direction needed to correct the frequency deviation. Frequency control settings shall meet all performance requirements as required in the current version of the SCE Interconnection Handbook.

Per FERC Order 841, nuclear generating facilities and certain Combined Heat and Power (CHP) facilities are exempt from these primary frequency response requirements.

An operating range shall be identified in the GIA that specifies a minimum state of charge and a maximum state of charge between which the BESS resource will be required to provide primary

[6] https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Transmission%20Planning%20Process

frequency response. The operating range is subject to reevaluation and modification by SCE in consultation with the IC and CAISO.

8. Metering Requirements for Projects

   The IC's Generating Facility configuration needs to have an approved metering design that enables SCE to appropriately meter its retail service. In instances where the proposed generating facility has a BESS resource, the approved metering design must allow for the retail load to be separately metered and measured from the wholesale loads ("Charging Capacity"). This is necessary because each type of load has metering requirements regulated by its own tariff.

   The IC is encouraged to refer to SCE's Interconnection Handbook for reference information on metering configuration requirements that will enable SCE to comply with metering tariff(s) requirements.

9. Ramping Requirements for Projects

   This Study does not evaluate the impact of the Generating Facility's charging and/or discharging ramp rate on the SCE Distribution System as these limitations will be highly dependent on the specific control system of the Generating Facility. If SCE, at its sole discretion, determines that charging/discharging ramp rate limitations are needed to ensure system reliability and power quality, SCE will evaluate initial ramp rate limitations to prevent adverse impacts, such as excessive voltage flicker or excessive operation of SCE equipment, on the SCE Distribution System after IC final engineering and at least thirty (30) calendar days prior to system commissioning. Any ramp rate limitations may be modified from time to time, as necessary, by SCE.

   IC shall be responsible for configuring and maintaining a limitation on the control system ramp rate changes in real power charging/discharge to a value that is no greater than maximum limits specified by SCE. This should not interfere with the ability of the Generating Facility to respond appropriately to disturbance performance requirements or ride-through requirements as outlined in this report, applicable tariffs, and SCE's Interconnection Handbook.

F. RELIABILITY STANDARDS, STUDY CRITERIA AND METHODOLOGY

- **Study Criteria**
  The generator interconnection studies were conducted to ensure the ISO Grid follows the North American Electric Reliability Corporation ("NERC") reliability standards, WECC regional criteria, and the ISO planning standards. Refer to Section C of the Area Report for details of the applicable reliability standards, study criteria, and methodology. In addition, the Subtransmission Assessment was performed in compliance with SCE's Subtransmission Planning Criteria.

- **SCE Short Circuit Duty Study Methodology**
  All bus locations where the QC13 Phase II projects increased the Short Circuit Duty ("SCD") by 0.1 kA or more and where duty was found to be in excess of 60% of the minimum breaker nameplate rating are listed in the Area Report (Appendix H) and applicable Subtransmission Assessment Report (Attachment 7). These values have been used to determine if any SCE

equipment is overstressed and associated mitigation. Similarly, this information is also utilized to identify any SCE-owned substations that may require a ground grid study.

- **Coordination with Affected Systems**
  Per GIP section 3.7, SCE will notify the Affected System Operators that are potentially affected by an IC's IR or group of interconnection requests subject to a Group Study. SCE will coordinate the conduct of any studies required to determine the impact of the IR on Affected Systems with Affected System Operators and, if possible, include those results (if available) in its applicable Interconnection Study within the time frame specified in the GIP. SCE will include such Affected System Operators in all meetings held with IC as required by the GIP. IC will cooperate with SCE in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A transmission provider which may be an Affected System shall cooperate with SCE with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems.

G. STUDY RESULTS

1. ISO controlled facilities (Bulk level facilities)

a. Generation Export Analysis

i. Steady State Power Flow Reliability Analysis

[redacted]

ii. Transient Analysis
Refer to the Area Report for details pertaining to the transient stability evaluation criteria and assessment results on the Bulk System.

iii. Subsynchronous Interaction Evaluations

For inverter-based generation, a study is required to assess potential sub-synchronous control interactions ("SSCI") with series compensated lines on the SCE Transmission System. The power electronic control system of the generator can interact with the sub-synchronous modes of the transmission system and cause SSCI, particularly when they are electrically close to each other. However, due to the fact that this project is not electrically close to series compensated lines, and that it would take extreme contingencies beyond criteria for it to be radially isolated into a series capacitor, a screening study was not conducted.

However, as previously mentioned in Section E.5 of this report, all inverter-based generators are required by the CAISO Transmission Planning Process Business Practice

Manual[7] to submit/provide the final Power System Computer Aided Design ("PSCAD") of the Generating Facility.

Please refer to Attachment 1 for additional requirements after the Generating Facility achieves Commercial Operation.

iv. Deliverability Assessment

Section I – Deliverability Assessment Results of this report provides information on any Delivery Network Upgrades (Local or Area) assigned to the Generating Facility, if any.

v. Short Circuit Duty Analysis

1. SCE-owned Facilities

[redacted]

2. SCE's Ground Grid Duty Concerns

[redacted]

3. SCD Considerations

Refer to Section B.3, B.5, and D.5.5 within the Area Report.

b. As-Available Charging Analysis

[redacted]

2. Non-ISO controlled Subtransmission System (66 kV or 115 kV)

a. Generation Export Analysis

i. Steady State Power Flow Analysis

1. Thermal Overloads

[redacted]

2. Power Flow Non-Convergence

[redacted]

3. Voltage Performance

[7] https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Transmission%20Planning%20Process

[redacted]

4. Required Mitigations

[redacted]

[redacted]

Please refer to Attachment 1 and Attachment 2 for additional scope and costs information of the facilities required to interconnect the Generating Facility.

5. Line Loss Analysis for Generating Facility
Based on the technical data provided for the individual generator unit(s), the collector system equivalent, pad-mount and main transformer banks, the internal Generating Facility losses are shown in Table 1. In addition, losses incurred on the generation tie-line are shown in Table 2 below. The Generating Facility losses identified represent those assuming the Generating Facility is limiting its output at the high side of the main transformer bank to achieve the desired MW delivery at the POI.

[redacted]

a. Power Factor Evaluation
FERC Order 827 provides the reactive power requirements for newly interconnecting non-synchronous generators which requires these resources to design the facility to be capable of providing reactive power to meet power factor

0.95 as measured on the high-side of the IC's substation or other equivalent location. This capability should be dynamic.

Base case power flow was evaluated to determine reactive power losses internal to the Generating Facility to ascertain if the reactive capability of the Generating Facility is adequate to supply these losses and meet the power factor requirements. A summary of the power factor evaluation is provided in the table below.

Evaluation Assumptions	
Generating Facility MW Output at Terminal (MW)	
Ambient Temperature for Generator Capability (^{o}C)	
Effective Power Factor at Generator Terminal	
Generating Facility MW at High Side of the Transformer (MW)	
Reactive Power Requirements	
Pad-mount transformer losses (MVar)	
Collector equivalent losses (Mvar)	
Main transformer losses (Mvar)	
PF Requirements at High Side of Transformer (Mvar)	
Total VAR Requirements (Mvar)	
Reactive Power Supply	
SMA 2500-EV PV Inverters at Pgen (Mvar)	
Shunt Capacitors (Mvar)	
Collector Line Charging (Mvar)	
Other Dynamic VAR Devices (MVar)	
Total VAR Supply (Mvar)	
Total Dynamic VAR Supply (Mvar)	
Total Reactive Power (Shortage) VAR Supply / Surplus Total VAR Requirements less Total VAR Supply	
Dynamic Reactive Power (Shortage) / Surplus PF Requirements at High Side of Transformer less Total Dynamic VAR Supply	

[redacted]

Based on the technical details provided, the Generating Facility, as proposed, [does not have/have] the capability to meet 0.95 power factor requirement as measured at the high-side of the IC's substation or other equivalent location.

ii. Transient Analysis

1. Generating Facility Performance

Dynamic simulation study results for the Generating Facility's dynamic model were acceptable and reflected the expected performance when the Generating Facility ultimately interconnects. During initial synchronization, the IC and SCE will conduct tests on the Generating Facility's electric generating units as required by Good Utility Practice per the forthcoming GIA. If the actual dynamic performance of the interconnected Generating Facility does not match the performance of the supplied dynamic model used in the interconnection cluster study process, the IC will update the dynamic model and resubmit to SCE, as required within ninety (90) Calendar Days after the successful initial synchronization tests, unless otherwise agreed.

2. System Performance

[redacted]

iii. Short Circuit Duty Analysis

1. SCE-owned Facilities

[redacted]

2. SCE's Ground Grid Duty Concerns

[redacted]

b. As-Available Charging Analysis

i. Steady State Power Flow Analysis

1. Thermal Overloads

The subtransmission assessment study indicated that the Generating Facility contributes to overloads on the following facilities listed below under normal, single contingency, and multiple contingency conditions. The details of the analysis and overload levels, as well as the details of the recommended mitigation to address these overloads, are provided in the corresponding Subtransmission Assessment Report(s). Provided below is a summary of the overloaded facilities under normal, single contingency, and/or multiple contingency conditions.

I. Normal Conditions

- [redacted]

II. Single Contingency

[redacted]

2. Power Flow Non-Convergence

[redacted]

Refer to Area Report and/or Subtransmission Assessment Report for additional details.

3. Voltage Performance

[redacted]

4. Power Factor Requirement under As-Available Charging operation of the Generating Facility

   The Generating Facility is required to provide 0.95 leading/0.95 lagging power factor regulation capability at the high-side of the IC's substation or other equivalent location.

5. System Limitations under ACDS of the Generating Facility
   The system overloads identified above under ACDS of the Generating Facility results in As-Available charging limitations.

   Accordingly, to prevent the system overloads specified above under As-Available Charging of the Generating Facility, it is necessary to limit charging to the MW amounts shown in the static charging table below until such time as SCE's DERMS is available. Table 2 below provides the On-Peak and Off-Peak Capacity in MW as well as the On-Peak and Off-Peak Energy MW-hours for the Generating Facility based on the worst case line and/or transformer loading conditions identified in the SAR per month. This information is subject to change as loading on SCE's Subtransmission System changes.

[redacted]

6. Implementation of As-Available Charging Distribution Service Restrictions for the Generating Facility
   SCE's Constraint Management System ("CMS") is only available to generating facility's requesting ACDS and proposing to interconnect at or below 50 kV. As a result, generating facility's proposing to interconnect at the subtransmission level (50 kV and above) will by default have to rely on a static charging schedule for implementation of ACDS charging restrictions, until DERMS become available.

   Refer to Attachment 1 and Attachment 2 for scope description and associated cost responsibility for implementing a static charging schedule for the Generating Facility.

7. Charges for As-Available Charging Distribution Service

In accordance with SCE's Energy Storage filing at FERC amending its WDAT, if the IC elects to receive ACDS, the IC, will be responsible for paying an As-Available Energy Charge Rate ($/kWh) per month, which is based on the metered energy usage of the Generating Facility and associated service level. The proposed Generating Facility, based on its POI, has service level 1.

Please refer to Attachment K[8] of the SCE WDAT, for information on the rates and charges applicable to the Generating Facility's BESS resource per its designated service level based on the Generating Facility's POI.

H. AFFECTED SYSTEMS

The specific SCD contribution from the Generating Facility to Neighboring Utilities is outlined in Table F.1 below. Impacts on the Affected Systems with the addition of all QC13 Phase II projects, are provided in the Area Report (Section H.2), and in Attachment 7.

[redacted]

I. DELIVERABILITY ASSESSMENT RESULTS

1. **On Peak Deliverability Assessment**

[redacted]

2. **Off- Peak Deliverability Assessment**

[redacted]

3. **Required Mitigations**

[redacted]

J. METERING

Between Phase I and Phase II, the IC did not provide SCE with an approved detailed one-line diagram per SCE's Interconnection Handbook Section 6.2 and GIP Section 9.3 that shows the Generating Facility's proposed or updated metering configuration ("metering one-line"). As a result, the Phase II Study

[8] Link to attachment k: https://www.sce.com/regulatory/open-access-information?from=/openaccess

metering scope and cost was based on proxy methodology that would presumably enable SCE to comply with its metering tariff(s).

Since the IC is required to comply with SCE's Interconnection Handbook and GIP, the IC's Generating Facility's metering configuration will be evaluated post Phase II or post GIA. If post GIA, finalizing the Generating Facility's metering one-line and determining the number of meter sets required to comply with SCE's metering tariff(s) requirements will be performed in parallel with the engineering and design phase of the project. The post GIA analysis may result in additional metering scope and cost and may impact the IC's requested ISD and COD. Any change to the Generating Facility's interconnection configuration or technology after the Phase II Study, including the metering configuration, will require the IC to submit an MMA request in accordance with the GIP. If post GIA, the GIA will be amended.

K. INTERCONNECTION FACILITIES, NETWORK UPGRADES, AND DISTRIBUTION UPGRADES

Please see Attachment 1 for SCE's Interconnection Facilities ("IFs"), RNU's, Delivery Network Upgrades[9] (DNU's), and Distribution Upgrades ("DUs") allocated to the Generating Facility for physical interconnection, to provide for the requested net MW export at the POI taking into consideration the IC's requested Deliverability, and in support of the IC's request for ACDS. Please note that SCE considered current system configuration, approved SCE sponsored projects, and all queued generation in determining scope for IFs and/or plan of service but will not "reserve" the identified scope of upgrades for the proposed POI unless a GIA is executed per the specified timelines shown in Tale L.1.

L. COST AND DURATION ESTIMATE

I. Cost Estimate

The Generating Facility's estimated interconnection costs, adjusted for inflation and provided in 'constant' 2021 dollars escalated to the Generating Facility's feasible COD (as identified below in Table L.1), are provided in Attachment 2 and the Generating Facility's allocated cost for shared network upgrades are provided in Attachment 3 to this Appendix A report. The interconnection costs will be documented in the forthcoming GIA for the Generating Facility. However, should there be a delay in executing the GIA beyond 2022, a new cost estimate adjusted for inflation will be required and reflected into the GIA.

II. Preliminary Durations

The estimated duration(s) shown in Table K.1 represents the estimated time needed for SCE to design, engineer, procure, and construct the applicable facilities with the start date of the estimated duration based on the effective date of the GIA; and timely receipt of all required information, written authorization to proceed ("ATP"), project payments, financial security postings, and timely completion of project milestones. The estimated durations for the facilities identified for the Generating Facility are as follows:

[9] At the IC's discretion, the IC or parties other than SCE pursuant to Section 10 2 under GIP may construct an Option (B) Generating Facility Area Delivery Network Upgrades (ADNUs) not allocated TP Deliverability. If SCE does not construct the ADNUs, the IC is not required to make the third Interconnection Financial Security posting to SCE pursuant to Section 4.8.4.2.1 under GIP.

Table K.1 Estimated Execution Duration

Facilities	Description	Duration (months)	Notes
Interconnection Facilities (IF)	Facilities described in Section 1.b of Attachment 1	18	1,2
Reliability Network Upgrades (RNU)	No required RNU were identified in the Phase II Interconnection Study	NA	NA
Stand Alone Network Upgrades (SANU)	Not Applicable	NA	NA
Area Delivery Network Upgrades (ADNU)	Because the Generating Facility elected to proceed under Option A, no Area Delivery Network Upgrades were identified for the Generating Facility in the Phase II Interconnection Study	NA	NA
Local Delivery Network Upgrades (LDNU)	No required LDNU were identified in the Phase II Interconnection Study	NA	NA
Distribution Upgrades (DU)	No required DU were identified in the Phase II Interconnection Study	NA	NA

Notes:

1. **Duration Estimates and Identified Upgrades**
   Durations identified in this section may vary. During the cluster study process, SCE includes all queued and active generation projects without regard to corresponding desired in-service dates or actual status to identify system upgrades, including SCD related upgrades, and a duration for SCE to build them. Such duration affects the ISD for this specific Generating Facility. As status for queued projects change (withdrawals, downsizing, suspensions, or deferred in-service dates), SCE may be able to accelerate in-service dates for projects affected by status changes. Furthermore, SCE will only begin design/construction of an identified system upgrade when enough projects 1) execute and fund a GIA and/or a Letter Agreement with SCE and 2) those projects trigger the need for an upgrade.
2. **Coordination of Environmental Work**

This study assumes that the IC will perform environmental work related to the installation of SCE's IF, and DU as specified in this report. The IC is advised that any durations provided above assume that the IC will perform this environmental work in parallel with SCE's preliminary design and engineering. The IC is expected to engage SCE to obtain concurrence prior to commencement of any environmental work and during execution of that work. Since SCE will be using the IC's environmental documents and/or work products, an IC delay in producing them may impact SCE's ability to obtain required permits and/or license(s) in time to target the IC's requested ISD. Such delays would likely cause additional delays in the commencement of SCE's final design and engineering, procurement, and construction. These delays could increase any durations identified in this report and as stated above, could impact the ISD provided in Table L.1 ISD and COD Assessment.

III. Other Potential Costs to the Generating Facility

a. The Generating Facility will utilize existing SCE Interconnection Facilities and other plan of service upgrades whose costs (both capital costs and applicable ongoing O&M charges) have or are being paid for by an earlier-queued project(s). The IC will be responsible for its allocated share of such costs unless the earlier-queued project(s) agrees to fund the IC's allocated share.

M. IN-SERVICE DATE AND COMMERCIAL OPERATION DATE ASSESSMENT

An ISD and COD assessment was performed for the Generating Facility to establish SCE's estimate of the earliest achievable ISD based on the cluster study process timelines and the time required for SCE to complete the facilities needed to enable physical interconnection as an Interim Deliverability Status or Energy-Only Deliverability Status interconnection (as applicable) for the Generating Facility. This date may be different from the IC's requested ISD and will be the basis for establishing the associated milestones in the draft GIA.

1. ISD Estimation Details

For the QC13 Phase II Interconnection Study, the estimated earliest achievable ISD is derived by the time requirements to complete the following:

1. QC13 Interconnection Study Cycle
2. Tender a draft GIA
3. Negotiate and execute the GIA
4. Longest duration associated with the facilities required to interconnect the Generating Facility (i.e., IF, RNU, and DU), per the durations specified in table K.1. above.

Table L.1 ISD and COD Assessment

Action or Assumption	Calendar Days or Months for Calculation	Item Description	Target Date

		Issuance of Phase II Interconnection Study Report
Add:	30 CD	Phase II Results Meetings
Starting Point:		**For WDTs the assumption is that the TPD Results issued and IC response provided before starting the draft GIA** *(the IC does have the option to start the GIA negotiation earlier)*
Add:	30 CD	Earliest reasonable Tender draft GIA
Add:	90 CD	GIA negotiation time, execution, and related activities
Add: Construction Duration (Months)	**18**	Project execution duration outlined in the Phase II Study Report. Construction completion no earlier than date which reflects earliest ISD
Reference:		IC-requested ISD via Attachment B
Reference:		IC-requested COD via Attachment B
		Duration difference between ISD and COD (months)
Equals:		Earliest achievable In-Service Date (ISD) per estimated project execution duration
		Earliest achievable Commercial Operation Date (COD) (Using difference between ISD and COD requested by IC)

[redacted]

Notes on the Achievable ISD and COD calculation:

1) This calculation assumes the estimated duration to construct the Generating Facility to achieve Interim Deliverability Status or Energy-Only Deliverability Status (as defined in the ISO Tariff) until the applicable DNUs are completed.
2) The project execution durations shown represents the estimated amount of time needed to engineer, design, procure, and construct the facilities from the effective date of the GIA; and timely receipt of the IC's initial specification information, written authorization to proceed ("ATP"), project payments, financial security postings, and timely completion of project milestones.

3) The IC-requested dates are specified in Attachment B submitted to SCE in accordance with GIP Section 4.6.1. Table L.1 provides SCE's estimated achievable ISD and COD for the Generating Facility in compliance with GIP Section 4.9.2. The actual ISD, Initial Synchronization Date, and COD will depend on licensing, engineering, detailed design, procurement, and construction requirements to interconnect the Generating Facility after the GIA has been executed or filed at the Federal Energy Regulatory Commission ("FERC") for acceptance.
4) Assumes that GIA is tendered after the TP Deliverability allocation results are disclosed, the required affidavit is submitted accepting or rejecting the deliverability allocation, and the IC has submitted written notification to SCE requesting a draft GIA.

2. ISD Conclusion

Based on these timelines, the IC's requested ISD of 6/1/2024 and COD of 7/1/2024 are achievable should the milestone dates be met as outlined in Table L.1.

SCE can reasonably tender a draft GIA by May 1, 2022. The draft GIA should be executed and/or filed at FERC no later than July 30, 2022 and will include the IC's requested ISD and COD.

The CAISO will perform its Annual Reassessment (January - July 2022) and Transmission Plan Deliverability (TPD) Allocation[10] (due April 2022). Any changes in scope, cost, or schedule requirements that come out of CAISO's Annual Reassessment and 2022 TPD Allocation will be reflected in a 2022 Reassessment Report, which will be used to revise the draft GIA (if under negotiation) or amend the GIA (if already executed).

N. TIMING OF FULL CAPACITY DELIVERABILITY STATUS, INTERIM DELIVERABILITY STATUS, AREA CONSTRAINTS, AND OPERATIONAL INFORMATION

The Generating Facility would be granted its requested FCDS only if the Generating Facility receives TPD allocation in the forthcoming TPD Allocation Study Process. Furthermore, timing of obtaining the requested FCDS is dependent on the completion of DNUs identified below in this report, which may be updated in any subsequent annual reassessment. Until such time that these DNUs are completed and placed in-service, the Generating Facility may be granted Interim Deliverability Status based on annual system availability. The sections below provide a discussion of the timing of FCDS, Interim Deliverability Status, Area Constraints, and Operational Information.

1. Conclusion

[redacted]

O. ADDITIONAL STUDY ANNOTATIONS

1. Conceptual Plan of Service

The results provided in this study are based on conceptual engineering and are preliminary. The information is not sufficient for permitting purposes and is subject to change as part of final engineering and design.

[10] The TPD Allocation Process is estimated to be completed in April 2022. The actual date may vary.

2. The study does not include analysis related to the power output rate of change that may occur due to the following or other conditions:

   - System mornings start up for solar generating facilities: That is when each morning the Generating Facility commences to generate and export electrical energy to the electric system.
   - Cloud Cover: Solar generating facilities have significant generation output variation (Variability) which can have an impact on electric system voltage profiles.

3. **IC's Technical Data**

   The study accuracy and results of the QC13 Phase II Interconnection Study is contingent upon the accuracy of the IR technical data provided by each IC during the Interconnection Study Cycle. Any proposed modification changes to the proposed Generating Facility from the data provided during the Interconnection Study Cycle post QC13 Phase II would need to be evaluated pursuant to GIP Section 4.5.7.2.3. SCE will perform the analysis to determine if such change(s) to the IC's Generating Facility would result in a material impact to queued-behind generation.

4. **Study Impacts on Affected Systems**
   Results or consequences of this Phase II Interconnection Study may require additional studies, facility additions, and/or operating procedures to address impacts to neighboring utilities and/or regional forums. For example, impacts may include but are not limited to WECC Path Ratings, short-circuit duties outside of the ISO Controlled Grid, and sub-synchronous resonance (SSR). Refer to Affected Systems Coordination Section H of the Area Report and above in Section F for additional information.

5. **Use of SCE's Facilities**

   a. **Crossing of SCE-owned Lines and Property**
      The IC is responsible for acquiring all property rights necessary for the IC's Interconnection Facilities, including those required to cross the SCE's facilities and property. This Interconnection Study does not include the method or estimated cost to the IC of SCE mitigation measures that may be required to accommodate any proposed crossing of SCE's facilities. The crossing of SCE's property rights shall only be permitted upon written agreement between SCRE and the IC at SCE's sole determination. Any proposed crossing of SCE property rights will require a separate study and/or evaluation, at the IC's expense, to determine whether such use may be accommodated. If the IC's Facilities result in the need to modify SCE's existing facilities, SCE recommends that the IC identify and include a description of such modifications in the IC's environmental study reports submitted to the lead agency permitting the Generating Facility. An interconnection customer may initiate this process by contacting SCE's Land Management Department at this link: https://www.sce.com/partners/real-estate-and-locations/secondary-land-use.

   b. **Utilizing SCE Property or ROW**
      In instances where a site deposit is provided in leu of site control documents for the location of a Generating Facility, and the site plan for the Generating Facility included in the IR package depicts the Generating Facility on SCE owned property or utilizing SCE ROW; the IC will be required to submit a secondary land use request to SCE's Land Management Department for review and approval. A secondary land use request to support third party generation development is unlikely to get approved by SCE, but nevertheless the IC can

submit a secondary land use request to SCE's Land Management Department for a review and approval at this link: https://www.sce.com/partners/real-estate-and-locations/secondary-land-use.

6. **SCE's Interconnection Handbook**
   The IC shall be required to adhere to all applicable requirements in SCE's Interconnection Handbook. These include, but are not limited to, all applicable protection, voltage regulation, VAR correction, harmonics, switching and tagging, and metering requirements.
7. **Western Electricity Coordinating Council (WECC) Policies**
   The IC shall be required to adhere to all applicable WECC policies including, but not limited to, the WECC Generating Unit Model Validation Policy.
8. **System Protection Coordination**
   Adequate Protection coordination will be required between SCE-owned protection and IC-owned protection. If adequate protection coordination cannot be achieved, then modifications to the IC-owned facilities (i.e., Generation-tie or Substation modifications) may be required to allow for ample protection coordination.
9. **Standby Power and Temporary Construction Power**
   The Phase II Interconnection Study does not address any requirements for standby power or temporary construction power that the Generating Facility may require prior to the ISD of the Interconnection Facilities (IF's). Should the Generating Facility require standby power or temporary construction power from SCE prior to the ISD of the IF's, the IC is responsible to make appropriate arrangements with SCE to receive and pay for such retail service. SCE recommends that the IC identify and include a description of such facilities in the IC's environmental study reports submitted to the lead agency permitting the Generating Facility.
10. **Licensing Cost and Estimated Time to Construct Estimate (Duration)**
    The estimated licensing cost and durations applied to this Generating Facility are based on the Generating Facility scope details presented in this Phase II Interconnection Study. These estimates are subject to change as the Generating Facility's environmental and real estate elements are further defined. Upon execution of the GIA, additional evaluation including but not limited to preliminary engineering, environmental surveys, and property right checks may enable licensing cost and/or duration updates to be provided.
11. **Network/Non-Network Classification of Telecommunication Facilities**

    a. Non-Network (Interconnection Facilities) Telecommunications Facilities: The cost for telecommunication facilities that were identified as part of the IC's Interconnection Facilities was based on an assumption that these facilities would be sited, licensed, and constructed by the IC. The IC will own, operate, maintain, and construct main and diverse telecommunication paths associated with the IC's generation tie line, excluding terminal equipment at both ends. In addition, the telecommunication requirements for the RAS were assumed based on tripping of the generator's breaker in lieu of tripping the circuit breakers and opening the IC's gen-tie at SCE's substation.

    b. Network (Network Upgrades) Telecommunications Upgrades: Due to uncertainties related to telecommunication upgrades for the numerous projects in queues ahead of this Generating Facility, telecommunication upgrades for earlier queued projects without a signed GIA which upgrades have not been constructed were not considered in this study. Depending on the scope of these earlier queued projects, the cost of

telecommunication upgrades identified for Phase II may be reduced. Any changes in these assumptions may affect the cost and schedule for the identified telecommunication upgrades.

12. **Ground Grid Analysis**
    A detailed ground grid analysis will be required as part of the final engineering for the Generating Facility at the SCE substations whose ground grids were flagged with duty concerns.
13. **SCE Technical Requirements**
    The IC is advised that there may be technical requirements in addition to those that outlined above in Section C of this report that are included in SCE's Interconnection Handbook or that will be addressed in the IC's GIA.
14. **Applicability**
    This document has been prepared to identify the impact(s) of the Generating Facility on the SCE's electric system; as well as establish the technical requirements to interconnect the Generating Facility to the POI that was evaluated in the final Phase II Interconnection Study for the Generating Facility. Nothing in this report is intended to supersede or establish terms/conditions specified in GIAs agreed to by the SCE, ISO, and the IC.
15. **Process for Initial Synchronization Date/Trial Operation Date and COD of the Generating Facility**
    The IC is reminded that the ISO has implemented a New Resource Implementation (NRI) process that ensures that a generation resource meets all requirements before Initial Synchronization Date/Trial Operation Date and COD. The NRI uses a bucket system for deliverables from the IC that are required to be approved by the ISO. The first step of this process is to submit an "ISO Initial Contact Information Request form" at least seven (7) months in advance of the planned Initial Synchronization Date. Subsequently an NRI project number will be assigned to the Generating Facility for all future communications with the ISO. SCE has no involvement in this NRI process except to inform the IC of this process requirement. Further information on the NRI process can be obtained from the ISO Website using the following links:
    New Resource Implementation webpage:
    http://www.caiso.com/participate/Pages/NewResourceImplementation/Default.aspx

    NRI Checklist:
    http://www.caiso.com/Documents/NewResourceImplementationChecklist.xls

    NRI Guide:
    http://www.caiso.com/Documents/NewResourceImplementationGuide.doc
16. **ISO Market Dispatch**
    This study did not evaluate any potential limitations that may be driven by the ISO market under real-time operating conditions.
17. **Interconnection Request to Third-Party Owned Facilities**
    Generating Facility's requesting to interconnect to a Third party owned facility will need to obtain written approval from the owner(s) of the facility prior to execution of the GIA.
18. **Future Charging Restrictions**
    Charging restrictions not identified in this study may occur in the future if the underlying operating assumptions prove to be different from the conditions evaluated in this study.

19. **Transmission Voltage Reference**

Identification of facility voltages (220 kV) in this Phase II Study are shown consistent with SCE System Operating Bulletin 123. However, all studies were predicated on the base voltages reflected in the WECC base cases. For the SCE bulk power system, the WECC base cases reflect 230 kV and 500 kV base voltages; consequently, all per-unit calculations presented were based on 230 kV and 500 kV voltages.

Attachment 1:
Interconnection Facilities, Network Upgrades, and Distribution Upgrades
Please refer to separate document

Attachment 2:
Escalated Cost and Time to Construct for Interconnection Facilities, Reliability Network Upgrades, Delivery Network Upgrades, and Distribution Upgrades

Please refer to separate document

Attachment 3:
Allocation of Network Upgrades for Cost Estimates and Maximum Network Upgrade Cost Responsibility

Not Applicable

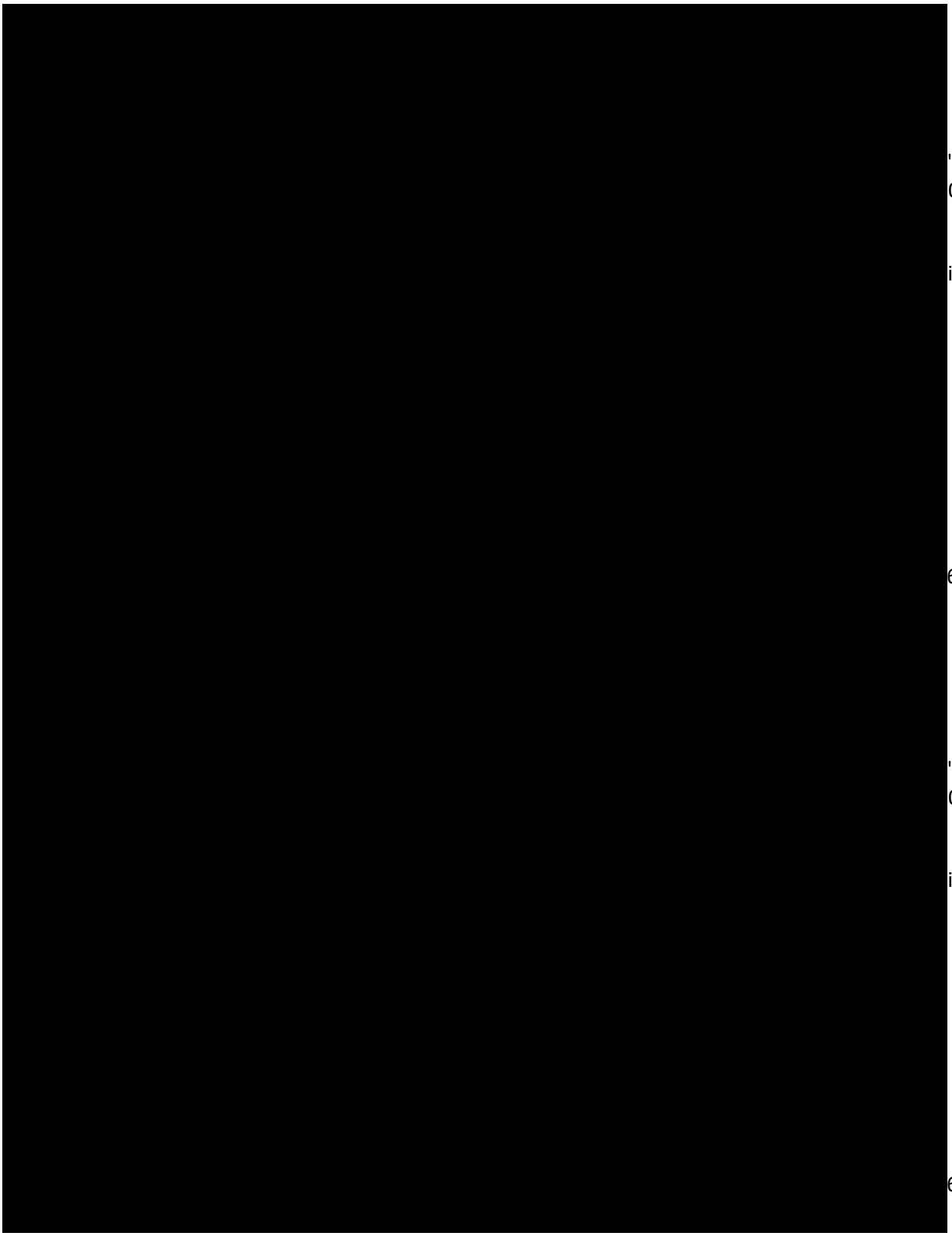
Attachment 4:
SCE's Interconnection Handbook

Preliminary Protection Requirements for Interconnection Facilities are outlined in SCE's Interconnection Handbook at the following link:

https://www.sce.com/sites/default/files/inline-files/SCE_InterconnectionHandbook.pdf

Attachment 5:
Short-Circuit Duty Calculation Study Results
Please refer to the Appendix H of the Area Report

Attachment 6:
IC Provided Generating Facility Dynamic Data



Attachment 7:
Subtransmission Assessment Report
Please refer to separate document