

PUBLIC UTILITIES COMMISSION  
505 Van Ness Avenue  
San Francisco CA 94102-3298



**Pacific Gas & Electric Company**  
**ELC (Corp ID 39)**  
**Status of Advice Letter 6669E**  
**As of November 21, 2024**

Subject: Modification of the Transmission Load Operating Agreement (TLOA) for the Caltrain Electrification Project

Division Assigned: Energy

Date Filed: 08-04-2022

Date to Calendar: 08-10-2022

Authorizing Documents: None

**Disposition:**

**Signed as Supplemented**

**Effective Date:**

**03-07-2024**

Resolution Required: Yes

**Resolution Number: E-5289**

Commission Meeting Date: 03-07-2024

CPUC Contact Information:

edtariffunit@cpuc.ca.gov

AL Certificate Contact Information:

Annie Ho

(415) 973-8794

PGETariffs@pge.com

**PUBLIC UTILITIES COMMISSION**  
505 Van Ness Avenue  
San Francisco CA 94102-3298



To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

The Energy Division of the California Public Utilities Commission has processed your recent Advice Letter (AL) filing and is returning an AL status certificate for your records.

The AL status certificate indicates:

- Advice Letter Number
- Name of Filer
- CPUC Corporate ID number of Filer
- Subject of Filing
- Date Filed
- Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)
- Effective Date of Filing
- Other Miscellaneous Information (e.g., Resolution, if applicable, etc.)

The Energy Division has made no changes to your copy of the Advice Letter Filing; please review your Advice Letter Filing with the information contained in the AL status certificate, and update your Advice Letter and tariff records accordingly.

All inquiries to the California Public Utilities Commission on the status of your Advice Letter Filing will be answered by Energy Division staff based on the information contained in the Energy Division's PAL database from which the AL status certificate is generated. If you have any questions on this matter please contact the:

Energy Division's Tariff Unit by e-mail to  
**[edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov)**

August 4, 2022

**Advice 6669-E**

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject:      Modification of the Transmission Load Operating Agreement (TLOA)  
for the Caltrain Electrification Project**

**Purpose**

Pacific Gas and Electric Company (PG&E or Company) requests approval of modifications to the Transmission Load Operating Agreement entered between PG&E and the Peninsula Corridor Joint Powers Board (JPB or Caltrain). Approval of the advice letter will approve modifications to the standard form Transmission Load Operating Agreement to address project-specific requirements of the Caltrain Modernization Program (Electrification Project).

**Background**

On October 6, 1995, PG&E filed Advice Letter 1537-E for Commission approval of – the Transmission Load Operating Agreement, Standard Form 79-847, which was approved with an effective date of December 26, 1995. The Transmission Load Operating Agreement establishes operational procedures between transmission load customers and PG&E system operators.

Caltrain is currently undertaking a project to electrify and upgrade the performance, efficiency, capacity, safety, and reliability of the Caltrain commuter rail service, the Caltrain Electrification Project (Project). The background to the Project was provided PG&E's Advice 4853-E, and Resolution E-4811 which approved a Master Agreement and five related agreements, referred to as Supplements, that addressed different scopes of work pertaining to the design and extension of PG&E electric transmission facilities to two Caltrain traction power substations (TPS).

The Project contemplates one Caltrain TPS will interconnect with PG&E's East Grand Substation in South San Francisco; the other TPS will interconnect with PG&E's FMC

Substation in San Jose. The transmission interconnections will introduce single-phase loads which are atypical of transmission interconnections.

PG&E determined that, in light of PG&E's substation design criteria, Caltrain's unique interconnection requirements, and Caltrain's timeline, for Caltrain to interconnect directly into the FMC and East Grand Substations a reconfiguration of each substation into a breaker-and-a-half configuration was the required and appropriate solution. Due to Caltrain's unique interconnection requirements, modifications to the standard form Transmission Load Operating Agreement are proposed.

### **Changes to the Transmission Load Operating Agreement**

The following modifications to the standard form Transmission Load Operating Agreement are proposed:

- Under "Recitals", Section A was updated to refer to the specific location of the Interconnection Facilities.
- Under "References", Section 7.5 was added stating "Load Entity agrees to comply with the additional requirements in Exhibit A: Load Entity Operations and Maintenance."
- Exhibit A: Load Entity Operations and Maintenance has been added to the Transmission Load Operating Agreement to address unique interconnection requirements associated with the Project.

Exhibit A identifies technical requirements that are in addition to applicable interconnection requirements described in the PG&E Interconnection Handbook (or its successor) and relevant Tariffs, associated with the following:

- Power Quality
- Protective Relay Schemes
- PG&E Access to Load Entity's Facilities
- PG&E Metering on Load Entity's Property
- Clarification that the PG&E and Caltrain Transmission Load Operating Agreement does not authorize California High Speed Rail train operation
- Includes reference to the Pacific Gas and Electric Company, July 29, 2016, System Impact Study: Caltrain Electrification Project – Blended Load Final Report, and Balfour Beatty Infrastructure Inc., Caltrain Peninsula Corridor Joint Powers Board Electrification Project Single Phase Study TPS-2 Final, Revision 2, July 6, 2022.

Pursuant to Section 9.2.3 of G.O. 96-B, PG&E may provide service to a government agency under terms and conditions otherwise deviating from its tariffs then in effect. PG&E may begin such service without prior Commission approval, but the utility shall promptly submit an advice letter to notify the Commission of PG&E's provision of such service and of the rates, charges, terms, and conditions under which the service is provided.

With this advice letter PG&E is notifying the Commission that it intends to incorporate modifications to the Transmission Load Operating Agreement immediately. Should the Commission order any modifications to the proposed Transmission Load Operating Agreement, PG&E will apply such modifications to conform to the Commission's Resolution.

### **Protests**

Anyone wishing to protest this filing may do so by letter sent electronically via E-mail, no later than August 24, 2022, which is 20 days after the date of this filing. Protests must be submitted to:

CPUC Energy Division  
ED Tariff Unit  
E-mail: EDTariffUnit@cpuc.ca.gov

The protest shall also be electronically sent to PG&E via E-mail at the address shown below on the same date it is electronically delivered to the Commission:

Sidney Bob Dietz II  
Director, Regulatory Relations  
c/o Megan Lawson  
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

### **Effective Date**

Pursuant to General Order (GO) 96-B, Rule 5.3, this advice letter is submitted with a Tier 3 designation. PG&E requests that this Tier 3 advice submittal become effective on August 4, 2022.

### **Notice**

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically to parties shown on the attached list. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process\_Office@cpuc.ca.gov.

- cc: Pranaya Shrestha, Caltrain, ShrethaP@caltrain.com  
Stacy Cocke, Caltrain, cockes@caltrain.com  
Sherry Bullock, Caltrain, bullocks@caltrain.com



# ADVICE LETTER SUMMARY

ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (ID U39 E)

Utility type:

☒ ELC ☐ GAS ☐ WATER  
☐ PLC ☐ HEAT

Contact Person: Annie Ho

Phone #: (415) 973-8794

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: AMHP@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric      GAS = Gas      WATER = Water  
PLC = Pipeline      HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 6669-E

Tier Designation: 3

Subject of AL: Modification of the Transmission Load Operating Agreement (TLOA) for the Caltrain Electrification Project

Keywords (choose from CPUC listing): Agreement

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☒ One-Time ☐ Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL:

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested? ☐ Yes ☒ No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? ☒ Yes ☐ No

Requested effective date: 8/4/22

No. of tariff sheets: 3

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: See Attachment 1

Service affected and changes proposed<sup>1</sup>: N/A

Pending advice letters that revise the same tariff sheets: N/A

<sup>1</sup>Discuss in AL if more space is needed.

**Protests and correspondence regarding this AL are to be sent via email and are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:**

California Public Utilities Commission  
Energy Division Tariff Unit Email:  
[EDTariffUnit@cpuc.ca.gov](mailto:EDTariffUnit@cpuc.ca.gov)

Contact Name: Sidnev Bob Dietz II. c/o Megan Lawson  
Title: Director, Regulatory Relations  
Utility/Entity Name: Pacific Gas and Electric Company

Telephone (xxx) xxx-xxxx: (415)973-2093  
Facsimile (xxx) xxx-xxxx: (415)973-3582  
Email: PGETariffs@pge.com

Contact Name:  
Title:  
Utility/Entity Name:

Telephone (xxx) xxx-xxxx:  
Facsimile (xxx) xxx-xxxx:  
Email:

CPUC  
Energy Division Tariff Unit  
505 Van Ness Avenue  
San Francisco, CA 94102

Clear Form



<b>Cal P.U.C. Sheet No.</b>	<b>Title of Sheet</b>	<b>Cancelling Cal P.U.C. Sheet No.</b>
53892-E	Electric Sample Form No. 79-847 Transmission Load Operating Agreement Sheet 1	48689-E
53893-E	ELECTRIC TABLE OF CONTENTS Sheet 1	53859-E
53894-E	ELECTRIC TABLE OF CONTENTS Sheet 30	52256-E



**Electric Sample Form No. 79-847**  
Transmission Load Operating Agreement

Sheet 1

**Please Refer to Attached  
Sample Form**



# TRANSMISSION LOAD OPERATING AGREEMENT

## DISTRIBUTION

- ☐ XXXX
- ☐ XXXX
- ☐ XXXX
- ☐ XXXX
- ☐ \_\_\_\_\_

## REFERENCE

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THIS LOAD OPERATING AGREEMENT (the “Agreement”) is effective as of the date last executed by the parties hereto by and between PACIFIC GAS AND ELECTRIC COMPANY (“PG&E”), a California corporation, and Peninsula Corridor Joint Powers Board (“JPB” or “Caltrain”) (“Load Entity”) a Joint Powers Board consisting of agencies from three counties: San Francisco, San Mateo, and Santa Clara which owns and operates Caltrain. PG&E and the Load Entity are sometimes referred to collectively as the “parties” and individually as the “party.”

## RECITALS

A. PG&E and the Load Entity have made arrangements under PG&E’s tariffs for an interconnection and power deliveries between the PG&E Transmission System and the Load Entity’s substation facility, Traction Power Station 2, located in the vicinity of PG&E’s FMC Substation in San Jose (the “Interconnection Facility.”)

B. Among other things, this Load Operating Agreement obligates the Load Entity to operate its Substation in a safe and prudent manner.

C. As part of this obligation, it is important that the Load Entity stay in close contact with PG&E system operators.

D. This Agreement sets up operating responsibilities and associated procedures for communications between the Load Entity and PG&E system operators. The Agreement also establishes procedures for safe work on electric systems and routine test procedures.

† Information collected on this form is used in accordance with PG&E’s Privacy Policy.  
The Privacy Policy is available at [pge.com/privacy](http://pge.com/privacy).

# TRANSMISSION LOAD OPERATING AGREEMENT

## AGREEMENT

THEREFORE, in consideration of the rights and responsibilities set forth herein, the parties agree as follows:

### 1. DEFINITIONS

When underlined, the following terms shall have the following meanings:

“Clearance Point” -- The points that isolate equipment from possible sources of energy.

“Designated PG&E Switching Center” -- The PG&E location identified in Paragraph 9 of this Agreement, with operational jurisdiction over the Load Entity’s Substation. The Designated PG&E Switching Center is staffed 24 hours a day.

“Emergency” -- An abnormal condition or situation that adversely affects, or potentially may adversely affect, PG&E’s Electric System Integrity.

“Interconnection Facilities” -- All apparatus installed to interconnect and deliver power between the PG&E system and the Load Entity’s substation. Interconnection Facilities include, but are not limited to, connection, transformation, switching, metering, and communications equipment, as well as any necessary additions, modifications and reinforcements to the PG&E system necessitated as a result of interconnecting the Load Entity’s Facility to the PG&E system. Interconnection Facilities also include control and safety equipment to protect (1) the PG&E system and its customers from faults occurring at the Load Entity’s Facility and substation, and (2) the Load Entity’s Facility and substation from faults occurring on the PG&E system or on the system of others to which the PG&E system is directly or indirectly connected.

## **TRANSMISSION LOAD OPERATING AGREEMENT**

“Non-Test” -- A procedure used in connection with work on a live line or near an energized circuit. In a Non-Test, PG&E will require that the Load Entity contact the Designated PG&E Switching Center before re-energizing a circuit following an automatic trip.

“PG&E Electric System Integrity” -- The state of operation of PG&E’s electric system in a manner that is deemed to minimize the risk of injury to persons and/or property and enable PG&E to provide adequate and reliable electric service to its customers.

### **2. TERM OF AGREEMENT**

This Agreement shall be binding upon execution by both parties. It shall terminate thirty days after the date on which the Load Entity’s substation facility ceases to be interconnected to the PG&E electric system. This Agreement may also be terminated by mutual written consent of the parties.

### **3. RESPONSIBILITY AND AUTHORITY**

- 3.1 The Load Entity understands and agrees that it must satisfy the applicable interconnection requirements described in the PG&E Interconnection Handbook (or its successor) before the Load Entity’s Substation can operate in parallel with the PG&E system.
- 3.2 It is the responsibility of the Load Entity to implement the operating guidelines contained in this Agreement. The Load Entity shall ensure that its operating personnel are familiar with the procedures and guidelines in this Agreement.
- 3.3 The Designated PG&E Switching Center is authorized to disconnect the Load Entity from the PG&E electric system if the Load Entity fails to meet the requirements set forth in this Agreement. Prior to PG&E disconnecting the Load Entity, PG&E shall provide written notice to the Load Entity detailing the Load Entity’s failure to adhere to such requirements and provide the Load Entity thirty (30) days to correct such

## **TRANSMISSION LOAD OPERATING AGREEMENT**

deficiency. PG&E reserves the right to immediately disconnect the Load Entity should such deficiencies, as determined by PG&E, cause immediate or imminent hazards to the safety of the Public or PG&E's employees.

- 3.4 The Load Entity understands that the voltage of PG&E's electric transmission system is not regulated and may vary widely. The voltage levels will fluctuate depending on system operation and system conditions. In accordance with the PG&E Interconnection Handbook, the Load Entity shall install and maintain the necessary equipment to maintain proper power factor and voltage at the point of interconnection.
- 3.5 Power factor correction is the responsibility of the Load Entity. When the Load Entity is receiving power from the PG&E system, metered power factors outside acceptable ranges may result in additional charges, as specified in PG&E's tariffs and operating standards.
- 3.6 If PG&E provides assistance in the operation or maintenance of the Load Entity's Substation without a written agreement, PG&E assumes no liability for any loss or damage, direct, indirect or consequential, arising from or related to any services PG&E may provide. PG&E reserves the right to charge the Load Entity for all such services.

#### **4. OPERATION OF INTERCONNECTION FACILITIES AND SUBSTATION**

- 4.1 The Load Entity shall maintain operating communications with the Designated PG&E Switching Center. The operating communications shall include, but not be limited to, system paralleling or separation, scheduled and unscheduled shutdowns, and equipment clearances.
- 4.2 All oral operating communications shall be conducted through the Designated PG&E Switching Center. The Load Entity agrees to maintain direct phone service so that PG&E can give instructions to the Load Entity or its designated operator.



## TRANSMISSION LOAD OPERATING AGREEMENT

- 4.3 The Load Entity agrees to notify the Designated PG&E Switching Center of the following:
- a. The current names and 24-hour phone numbers of the personnel responsible for operating and maintaining the Load Entity's Substation.
  - b. Any Emergency situation, or any request that PG&E de-energize a portion of the system under its control.
  - c. Any changes in the mechanical or electric condition of the Load Entity's Substation that may affect the reliability of the Load Entity's service or the PG&E electric system.
  - d. Immediately upon discovery, any miss operation or inoperable condition of a PG&E-required interconnection relay, circuit breaker, or other protective device.
  - e. Immediately upon discovery, any operation of a PG&E-required interconnection relay, circuit breaker, or other protective device. Relay targets that caused the circuit breaker or protective device to operate.
  - f. Plans to manually parallel or separate from the PG&E system and the times of actual manual parallels and separations. Emergency separations shall be reported as soon as conditions permit.
- 4.4 Under normal conditions, the Load Entity shall give as much advance notice as possible (a minimum of 168 hours if connected to 230 kV or 120 hours if connected to 115 kV or below is requested) to the Designated PG&E Switching Center when planning to perform work that may affect PG&E's electric system. At a minimum, the notice shall include:
- a. Nature of the work to be performed.
  - b. Date and time work will begin.
  - c. Date and time work will be completed.
  - d. Apparatus to be cleared and the Clearance Points required.

## TRANSMISSION LOAD OPERATING AGREEMENT

- e. Name and telephone number of the person in charge of the work.
  - f. Whether or not protective grounds will be installed.
- 4.5 If the Load Entity wishes to perform work on its own facilities which would normally be energized by PG&E-controlled source(s) of energy, the Load Entity may request that PG&E open, lock and tag PG&E's associated disconnect device to isolate the Load Entity's facilities from PG&E source(s) of energy. PG&E will also establish the disconnect device(s) as an open Clearance Point(s) and install "Man on Line" tags (see PG&E's General Operating Instructions).
- 4.6 PG&E assumes no responsibility for equipment energized by the Load Entity's substation or by any other means. The Load Entity agrees that any work it performs is at its own risk. The Load Entity shall take all necessary steps to ensure that work is conducted in compliance with all applicable federal, state and local laws and regulations and in a manner that does not endanger the safety of persons or equipment.
- 4.7 The Load Entity must open its interconnection disconnect switch if PG&E requests a Clearance Point. A qualified PG&E employee will observe that the switch is open, lock it open with a PG&E lock, and attach a filled-out "Man-on-Line" tag to indicate it is a Clearance Point.
- 4.8 In an Emergency, the Load Entity agrees to expeditiously open the interconnection disconnect switch upon notification from the PG&E Designated Switching Center.
- 4.9 Under normal conditions, PG&E will give advance notice of plans to perform work, which will affect the Load Entity's access to the PG&E system. PG&E reserves the right to charge the Load Entity the additional cost for work performed during times other than normal business hours (Non-Holidays, Monday through Friday, 8:00 A.M. to 5:00 P.M.) when the schedule of such work is negotiable, as determined by PG&E. PG&E will provide the Load Entity with an estimate of the additional cost and if the Load Entity still desires the work to be



## **TRANSMISSION LOAD OPERATING AGREEMENT**

performed during non-normal business hours and PG&E does perform the work, PG&E shall charge the Load Entity the actual costs of the work, the amount of which shall not exceed the cost estimate.

- 4.10 Under Emergency conditions, the Designated PG&E Switching Center may without notice and at any time interrupt service to the Load Entity's Facility if a situation exists which may adversely affect PG&E Electric System Integrity or upon any emergency request that PG&E de-energize a portion of the system under its control.

### **5. MAINTENANCE OF INTERCONNECTION EQUIPMENT OWNED BY THE LOAD ENTITY**

- 5.1 The Load Entity agrees to maintain all PG&E-required Interconnection Facilities' devices in service, with relay settings as recorded on PG&E's "Relay Test Report". Proposed changes in relay settings must be submitted in writing to PG&E for approval. Any modification of the existing interconnection or protection scheme requires PG&E's prior written approval.
- 5.2 PG&E required Interconnection Facilities owned by the Load Entity shall be periodically tested and maintained at the manufacturer's accepted specifications, but at least every four years, by qualified personnel. Copies of equipment test reports shall be forwarded to PG&E for review.

### **6. EQUIPMENT OWNED BY THE LOAD ENTITY FOR RELIABILITY, OPERABILITY OR PARALLEL OPERATION.**

This provision applies where the Load Entity is interconnected to the PG&E transmission system.

In the interest of safety, all customers must notify PG&E before operating ANY generation sources capable of parallel operation, or operating equipment that maintains current reliability or operability of PG&E's electrical system, which are interconnected to the Load Entity's

## TRANSMISSION LOAD OPERATING AGREEMENT

substation, the Load Entity's electrical system, or the PG&E electrical system. The Load Entity agrees to comply with the requirements identified in the PG&E Interconnection Handbook for all such equipment and generation sources capable of parallel operation with PG&E's electrical system.

### Standby Generator

Please check the appropriate line:

- ☐ The Load Entity has installed a standby generator.
- ☐ The Load Entity does not have and does not plan to install a standby generator.
- ☐ While the Load Entity does not currently have a standby generator installed, it plans to install a standby generator in the future. The Load Entity will notify the Designated PG&E Switching Center before operating this generator in parallel with the PG&E system.

### Line Selector Switches

Unlike the PG&E electric distribution system, the PG&E transmission system does not have multiple feeds. If the line serving the Load Entity's substation is out of service due to line outages or planned maintenance, then service to the Load Entity may also be interrupted. Please refer to Electric Rule 14, Shortage of Supply and Interruption of Delivery. Where PG&E or the Load Entity has installed line selector switches for reliability, maintenance or operability they will be operated in compliance Sections 3 and 4 in this Agreement.

## TRANSMISSION LOAD OPERATING AGREEMENT

Please check the appropriate line:

- \_\_\_\_\_ PG&E has installed transmission line selector switches.
- \_\_\_\_\_ The Load Entity installed transmission line switches.
- \_\_\_\_\_ The Load Entity has NOT installed transmission line switches, and does not plan on installing line selector switches

Should PG&E, in the future, determine that transmission line selector switches are required, to be installed on the PG&E transmission system to which the tap serving the Load Entity's facility is connected, in order to maintain current reliability or operability of PG&E's transmission system, the material and installation cost of the switches shall be at PG&E's expense.

Should PG&E, in the future, determine that the switches are NOT required, and the Load Entity chooses to request the switches to be installed on PG&E's Transmission System, and that such switches would solely benefit the Load Entity's service reliability, ability to restore service or prevent service interruption to the Load Entity, PG&E will install them as a Special Facility.

### 7. REFERENCES

The following reference materials are available for use by the Load Entity and its operating personnel. Copies may be requested from the Designated PG&E Switching Center:

- 7.1 **PG&E Standard Practice No. S1466--** A booklet listing all the standard operating orders followed by PG&E system operators.



## TRANSMISSION LOAD OPERATING AGREEMENT

- 7.2 **PG&E Standard Practice No. S1403** -- A document describing approved PG&E clearance procedures and instructions for obtaining clearances.
- 7.3 **PG&E Interconnection Handbook**
- 7.4 **Electric Rules 2, and 14**
- 7.5 **Load Entity agrees to comply with the additional requirements in Exhibit A: Load Entity Operations and Maintenance.**

### 8. GENERAL PROVISIONS

- 8.1 Choice of Laws: This Agreement shall be governed by and construed in accordance with the laws of the State of California, excluding any choice of law rules that direct the application of the laws of another jurisdiction.
- 8.2 Modification: This Agreement may be amended or modified only by a written instrument signed by the authorized representatives of both the parties.
- 8.3 Captions: Captions are included herein for ease of reference only. The captions are not intended to affect the meaning of the contents or scope of this Agreement.
- 8.4 Non-waiver: Failure by either party to enforce any right or obligation with respect to any matter arising in connection with this Agreement shall not constitute a waiver as to that matter or any other matter.
- 8.5 Interpretation: This Agreement is not intended to modify any PG&E or ISO tariff or rule filed with the California Public Utilities Commission or Federal Energy Regulatory Commission. In case of conflict between this Agreement and any PG&E or ISO tariff or rule, the tariff or rule shall govern. This agreement represents the entire understanding between the parties hereto relating to the operation of the Load Entity's substation, and supersedes any and all prior proposals or agreements, whether written or oral, that may exist between the parties. Where there is conflict or inconsistency with the express terms in this Agreement and



## TRANSMISSION LOAD OPERATING AGREEMENT

any documents referenced by this Agreement excluding the above referenced PG&E and ISO tariffs, the terms of this Agreement shall supersede such conflicting terms.

**8.6 DISPUTE RESOLUTION: IF A DISPUTE ARISES OUT OF OR RELATING TO THIS AGREEMENT, OR THE BREACH THEREOF, AND IF SAID DISPUTE CANNOT BE SETTLED THROUGH DIRECT DISCUSSIONS, THE PARTIES AGREE TO THE FIRST ENDEAVOR IN GOOD FAITH TO SETTLE THE DISPUTE IN AN AMICABLE MANNER WITHIN THIRTY (30) DAYS OF SUBMISSION TO MEDIATION UNDER THE MEDIATION RULES OF THE AMERICAN ARBITRATION ASSOCIATION BEFORE SEEKING RECOURSE IN A JUDICIAL FORUM. THE MEDIATION SHALL BE INITIATED BY THE WRITTEN REQUEST OF EITHER PARTY AND SHALL BE COMMENCED WITHIN FIFTEEN (15) DAYS OF RECEIPT OF SUCH NOTICE. THE PARTIES SHALL SHARE EQUALLY IN ANY EXPENSES INCURRED AS A RESULT OF THE MEDIATION.**

**9. NAME AND ADDRESS OF KEY PERSONNEL:**

The Transmission Load Entity:

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Phone:

---

Fax:

---

Designated PG&E

Switching Center:

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(Address)

Phone:

---

Fax:

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A party may change or supplement the addresses above by written notice to the other party. The Load Entity agrees to keep the Designated PG&E Switching Center informed of any change in its notice address.



## TRANSMISSION LOAD OPERATING AGREEMENT

### 10. CPUC AUTHORITY

This Agreement shall at all times be subject to such changes or modifications by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

### 11. SIGNATURES

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives, and it is effective as of the last date set forth below.

	PACIFIC GAS AND ELECTRIC COMPANY
_____ Customer/Company	_____
_____ Authorized by (Print)	_____ Authorized by (Print)
_____ Signature	_____ Signature
_____ Title	_____ Title
_____ Date	_____ Date

**EXHIBIT A: Load Entity Operations and Maintenance – Caltrain Traction Power  
Station 2****1. Load Entity Technical Requirements and Compliance:**

In addition to complying with applicable interconnection requirements described in the PG&E Interconnection Handbook (or its successor) and relevant Tariffs, the Load Entity agrees to operate and maintain the facilities on the load side of the points of delivery and the Caltrain traction power system in accordance with the following technical requirements and compliance:

**1.1 Power Quality:**

Specifically with respect to voltage flicker, transient characteristics, resonance vulnerabilities, unbalanced characteristics and harmonic waveform distortion, Load Entity is responsible not to exceed the requirements set by the IEEE 519-2014, and IEEE 1453-2015 standards at the time of this Agreement. Pre- and post-interconnection performance measurement with evaluation and PG&E acceptance in the Load Entity's Electric Motor Units (or "EMUs") commissioning process is a requirement to facilitate compliance. PG&E approval of selected instrumentation, test procedures, connection points and the array of system and Load Entity operating conditions examined during the Load Entity performance measurement phase is a requirement in order to assure adequate recording is achieved for the power quality assessment. The testing will include all aspects of the provisions referenced above, but also may not be limited to these provisions as determined by PG&E, in that adverse impacts may exist outside of their scope. In the event that the Load Entity does not meet such standards due to the impacts that result from the operation and maintenance of the EMUs by the Load Entity, PG&E shall demonstrate to the Load Entity that such standards are not being met, and PG&E's requirements for the Load Entity to reasonably conform to such requirements.

**1.1.1. Power Quality**

The Load Entity agrees to comply with the IEEE 519-2014, and IEEE 1453-2015 standards, with respect to power quality issues.

**1.1.2. Voltage Imbalance and Motors**

The Load Entity agrees that the operation and maintenance of the Load Entity's EMUs shall not cause voltage imbalance at the point of common coupling between PG&E and Load Entity's facilities to exceed 2 ½ percent between phase to phase per PG&E's voltage imbalance requirement.

## TRANSMISSION LOAD OPERATING AGREEMENT – EXHIBIT A

### 1.1.3. Installation of Power Quality Monitoring

Power quality monitoring will be installed at the Traction Power Station 2 , and data must be provided to PG&E upon request. The power quality meters must be certified to IEC 61000-4-30 Class A instrument.

## 1.2 Protective Relay Schemes:

Protective relay applications and schemes will be as approved by PG&E for the PG&E-required devices at the point of common coupling as required per the PG&E Transmission Interconnection Handbook. Furthermore, any proposed changes to relay settings or modifications to protection schemes must be communicated for PG&E review and approval prior to implementing the changes.

## 2. PG&E Access to Load Entity's Facilities:

Load Entity has granted PG&E an easement relating to its use and operation of facilities at the Load Entity's premises set forth in that certain easement granted to Pacific Gas and Electric Company, a corporation entitled "Easement Deed", dated October 11, 2021 and recorded November 12, 2021 as Document No. 25162607 of Official Records, Santa Clara County, California.

## 3. PG&E Metering on Load Entity's Property:

Load Entity has authorized PG&E's use of Load Entity's property for metering and associated equipment as set forth in that certain agreement entitled Meter Room Agreement dated July 15, 2022 and recorded July 18, 2022 as Document No. 25337199 of Official Records, Santa Clara County, California. The following list of drawings indicates the single line diagrams of the Load Entity's Substation receiving service and indicates metering, protective relays and equipment owned, operated and maintained by PG&E.

PG&E Drawings: Traction Power Station 2	Caltrain Drawings: Traction Power Station 2
4160480	Y5019
4160481	Y5021
4160482	Y5133
4160483	Y5212
4160484	Y5251
	PG&E Junction Box Layout



## **TRANSMISSION LOAD OPERATING AGREEMENT – EXHIBIT A**

#### **4. Future California High Speed Rail:**

This Transmission Load Operating Agreement does not authorize California High Speed Rail (CAHSR) train operation on the Caltrain Electrification System. At such time when accurate information on CAHSR operation is available and using PCEP, Caltrain will engage PG&E and perform applicable interconnection requirements including studies that will include but not be limited to: impacts on protection relay performance considering blended CAHSR and Caltrain train response(s) to electrical faults during propulsion and regenerative braking modes of operation, voltage flicker, transient characteristics, resonance vulnerabilities, unbalanced characteristics and harmonic waveform distortion; implementation of mitigation, if necessary; and execution of agreements that must be completed prior to interconnection with PG&E's transmission system.

#### **5. References:**

This Agreement only applies to Caltrain's operating specifications, including train design, as studied in the Pacific Gas and Electric Company, July 29, 2016, System Impact Study: Caltrain Electrification Project – Blended Load Final Report, and Balfour Beatty Infrastructure Inc., Caltrain Peninsula Corridor Joint Powers Board Electrification Project Single Phase Study TPS-2 Final, Revision 2, July 6, 2022.



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Sheet 1

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Advice 6669-E  
Decision

Issued by  
**Meredith Allen**  
Vice President, Regulatory Affairs

Submitted  
Effective  
Resolution

August 4, 2022



**ELECTRIC TABLE OF CONTENTS**

Sheet 30

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## **Attachment 2**

### **Redline Tariffs**



# TRANSMISSION LOAD OPERATING AGREEMENT

## DISTRIBUTION

- ☐ XXXX
- ☐ XXXX
- ☐ XXXX
- ☐ XXXX
- ☐ \_\_\_\_\_

## REFERENCE

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THIS LOAD OPERATING AGREEMENT (the “Agreement”) is effective as of the date last executed by the parties hereto by and between PACIFIC GAS AND ELECTRIC COMPANY (“PG&E”), a California corporation, and Peninsula Corridor Joint Powers Board (“JPB” or “Caltrain”) (“Load Entity”) a Joint Powers Board consisting of agencies from three counties: San Francisco, San Mateo, and Santa Clara which owns and operates Caltrain. PG&E and the Load Entity are sometimes referred to collectively as the “parties” and individually as the “party.”

## RECITALS

A. PG&E and the Load Entity have made arrangements under PG&E’s tariffs for an interconnection and power deliveries between the PG&E Transmission System and the Load Entity’s substation facility, Traction Power Station 2, located at in the vicinity of PG&E’s FMC Substation in San Jose (the “Interconnection Facility.”)

B. Among other things, this Load Operating Agreement obligates the Load Entity to operate its Substation in a safe and prudent manner.

C. As part of this obligation, it is important that the Load Entity stay in close contact with PG&E system operators.

D. This Agreement sets up operating responsibilities and associated procedures for communications between the Load Entity and PG&E system operators. The Agreement also establishes procedures for safe work on electric systems and routine test procedures.

† Information collected on this form is used in accordance with PG&E’s Privacy Policy.  
The Privacy Policy is available at [pge.com/privacy](http://pge.com/privacy).

# TRANSMISSION LOAD OPERATING AGREEMENT

## AGREEMENT

THEREFORE, in consideration of the rights and responsibilities set forth herein, the parties agree as follows:

### 1. DEFINITIONS

When underlined, the following terms shall have the following meanings:

“Clearance Point” -- The points that isolate equipment from possible sources of energy.

“Designated PG&E Switching Center” -- The PG&E location identified in Paragraph 9 of this Agreement, with operational jurisdiction over the Load Entity’s Substation. The Designated PG&E Switching Center is staffed 24 hours a day.

“Emergency” -- An abnormal condition or situation that adversely affects, or potentially may adversely affect, PG&E’s Electric System Integrity.

“Interconnection Facilities” -- All apparatus installed to interconnect and deliver power between the PG&E system and the Load Entity’s substation. Interconnection Facilities include, but are not limited to, connection, transformation, switching, metering, and communications equipment, as well as any necessary additions, modifications and reinforcements to the PG&E system necessitated as a result of interconnecting the Load Entity’s Facility to the PG&E system. Interconnection Facilities also include control and safety equipment to protect (1) the PG&E system and its customers from faults occurring at the Load Entity’s Facility and substation, and (2) the Load Entity’s Facility and substation from faults occurring on the PG&E system or on the system of others to which the PG&E system is directly or indirectly connected.



## TRANSMISSION LOAD OPERATING AGREEMENT

“Non-Test” -- A procedure used in connection with work on a live line or near an energized circuit. In a Non-Test, PG&E will require that the Load Entity contact the Designated PG&E Switching Center before re-energizing a circuit following an automatic trip.

“PG&E Electric System Integrity” -- The state of operation of PG&E’s electric system in a manner that is deemed to minimize the risk of injury to persons and/or property and enable PG&E to provide adequate and reliable electric service to its customers.

### 2. TERM OF AGREEMENT

This Agreement shall be binding upon execution by both parties. It shall terminate thirty days after the date on which the Load Entity’s substation facility ceases to be interconnected to the PG&E electric system. This Agreement may also be terminated by mutual written consent of the parties.

### 3. RESPONSIBILITY AND AUTHORITY

- 3.1 The Load Entity understands and agrees that it must satisfy the applicable interconnection requirements described in the PG&E Interconnection Handbook (or its successor) before the Load Entity’s Substation can operate in parallel with the PG&E system.
- 3.2 It is the responsibility of the Load Entity to implement the operating guidelines contained in this Agreement. The Load Entity shall ensure that its operating personnel are familiar with the procedures and guidelines in this Agreement.
- 3.3 The Designated PG&E Switching Center is authorized to disconnect the Load Entity from the PG&E electric system if the Load Entity fails to meet the requirements set forth in this Agreement. Prior to PG&E disconnecting the Load Entity, PG&E shall provide written notice to the Load Entity detailing the Load Entity’s failure to adhere to such requirements and provide the Load Entity thirty (30) days to correct such

## TRANSMISSION LOAD OPERATING AGREEMENT

deficiency. PG&E reserves the right to immediately disconnect the Load Entity should such deficiencies, as determined by PG&E, cause immediate or imminent hazards to the safety of the Public or PG&E's employees.

- 3.4 The Load Entity understands that the voltage of PG&E's electric transmission system is not regulated and may vary widely. The voltage levels will fluctuate depending on system operation and system conditions. In accordance with the PG&E Interconnection Handbook, the Load Entity shall install and maintain the necessary equipment to maintain proper power factor and voltage at the point of interconnection.
- 3.5 Power factor correction is the responsibility of the Load Entity. When the Load Entity is receiving power from the PG&E system, metered power factors outside acceptable ranges may result in additional charges, as specified in PG&E's tariffs and operating standards.
- 3.6 If PG&E provides assistance in the operation or maintenance of the Load Entity's Substation without a written agreement, PG&E assumes no liability for any loss or damage, direct, indirect or consequential, arising from or related to any services PG&E may provide. PG&E reserves the right to charge the Load Entity for all such services.

#### 4. **OPERATION OF INTERCONNECTION FACILITIES AND SUBSTATION**

- 4.1 The Load Entity shall maintain operating communications with the Designated PG&E Switching Center. The operating communications shall include, but not be limited to, system paralleling or separation, scheduled and unscheduled shutdowns, and equipment clearances.
- 4.2 All oral operating communications shall be conducted through the Designated PG&E Switching Center. The Load Entity agrees to maintain direct phone service so that PG&E can give instructions to the Load Entity or its designated operator.





## TRANSMISSION LOAD OPERATING AGREEMENT

- 4.3 The Load Entity agrees to notify the Designated PG&E Switching Center of the following:
- a. The current names and 24-hour phone numbers of the personnel responsible for operating and maintaining the Load Entity's Substation.
  - b. Any Emergency situation, or any request that PG&E de-energize a portion of the system under its control.
  - c. Any changes in the mechanical or electric condition of the Load Entity's Substation that may affect the reliability of the Load Entity's service or the PG&E electric system.
  - d. Immediately upon discovery, any miss operation or inoperable condition of a PG&E-required interconnection relay, circuit breaker, or other protective device.
  - e. Immediately upon discovery, any operation of a PG&E-required interconnection relay, circuit breaker, or other protective device. Relay targets that caused the circuit breaker or protective device to operate.
  - f. Plans to manually parallel or separate from the PG&E system and the times of actual manual parallels and separations. Emergency separations shall be reported as soon as conditions permit.
- 4.4 Under normal conditions, the Load Entity shall give as much advance notice as possible (a minimum of 168 hours if connected to 230 kV or 120 hours if connected to 115 kV or below is requested) to the Designated PG&E Switching Center when planning to perform work that may affect PG&E's electric system. At a minimum, the notice shall include:
- a. Nature of the work to be performed.
  - b. Date and time work will begin.
  - c. Date and time work will be completed.
  - d. Apparatus to be cleared and the Clearance Points required.



## TRANSMISSION LOAD OPERATING AGREEMENT

- e. Name and telephone number of the person in charge of the work.
  - f. Whether or not protective grounds will be installed.
- 4.5 If the Load Entity wishes to perform work on its own facilities which would normally be energized by PG&E-controlled source(s) of energy, the Load Entity may request that PG&E open, lock and tag PG&E's associated disconnect device to isolate the Load Entity's facilities from PG&E source(s) of energy. PG&E will also establish the disconnect device(s) as an open Clearance Point(s) and install "Man on Line" tags (see PG&E's General Operating Instructions).
- 4.6 PG&E assumes no responsibility for equipment energized by the Load Entity's substation or by any other means. The Load Entity agrees that any work it performs is at its own risk. The Load Entity shall take all necessary steps to ensure that work is conducted in compliance with all applicable federal, state and local laws and regulations and in a manner that does not endanger the safety of persons or equipment.
- 4.7 The Load Entity must open its interconnection disconnect switch if PG&E requests a Clearance Point. A qualified PG&E employee will observe that the switch is open, lock it open with a PG&E lock, and attach a filled-out "Man-on-Line" tag to indicate it is a Clearance Point.
- 4.8 In an Emergency, the Load Entity agrees to expeditiously open the interconnection disconnect switch upon notification from the PG&E Designated Switching Center.
- 4.9 Under normal conditions, PG&E will give advance notice of plans to perform work, which will affect the Load Entity's access to the PG&E system. PG&E reserves the right to charge the Load Entity the additional cost for work performed during times other than normal business hours (Non-Holidays, Monday through Friday, 8:00 A.M. to 5:00 P.M.) when the schedule of such work is negotiable, as determined by PG&E. PG&E will provide the Load Entity with an estimate of the additional cost and if the Load Entity still desires the work to be



## TRANSMISSION LOAD OPERATING AGREEMENT

performed during non-normal business hours and PG&E does perform the work, PG&E shall charge the Load Entity the actual costs of the work, the amount of which shall not exceed the cost estimate.

- 4.10 Under Emergency conditions, the Designated PG&E Switching Center may without notice and at any time interrupt service to the Load Entity's Facility if a situation exists which may adversely affect PG&E Electric System Integrity or upon any emergency request that PG&E de-energize a portion of the system under its control.

### 5. MAINTENANCE OF INTERCONNECTION EQUIPMENT OWNED BY THE LOAD ENTITY

- 5.1 The Load Entity agrees to maintain all PG&E-required Interconnection Facilities' devices in service, with relay settings as recorded on PG&E's "Relay Test Report". Proposed changes in relay settings must be submitted in writing to PG&E for approval. Any modification of the existing interconnection or protection scheme requires PG&E's prior written approval.
- 5.2 PG&E required Interconnection Facilities owned by the Load Entity shall be periodically tested and maintained at the manufacturer's accepted specifications, but at least every four years, by qualified personnel. Copies of equipment test reports shall be forwarded to PG&E for review.

### 6. EQUIPMENT OWNED BY THE LOAD ENTITY FOR RELIABILITY, OPERABILITY OR PARALLEL OPERATION.

This provision applies where the Load Entity is interconnected to the PG&E transmission system.

In the interest of safety, all customers must notify PG&E before operating ANY generation sources capable of parallel operation, or operating equipment that maintains current reliability or operability of PG&E's electrical system, which are interconnected to the Load Entity's

## TRANSMISSION LOAD OPERATING AGREEMENT

substation, the Load Entity's electrical system, or the PG&E electrical system. The Load Entity agrees to comply with the requirements identified in the PG&E Interconnection Handbook for all such equipment and generation sources capable of parallel operation with PG&E's electrical system.

### Standby Generator

Please check the appropriate line:

- ☐ The Load Entity has installed a standby generator.
- ☐ The Load Entity does not have and does not plan to install a standby generator.
- ☐ While the Load Entity does not currently have a standby generator installed, it plans to install a standby generator in the future. The Load Entity will notify the Designated PG&E Switching Center before operating this generator in parallel with the PG&E system.

### Line Selector Switches

Unlike the PG&E electric distribution system, the PG&E transmission system does not have multiple feeds. If the line serving the Load Entity's substation is out of service due to line outages or planned maintenance, then service to the Load Entity may also be interrupted. Please refer to Electric Rule 14, Shortage of Supply and Interruption of Delivery. Where PG&E or the Load Entity has installed line selector switches for reliability, maintenance or operability they will be operated in compliance Sections 3 and 4 in this Agreement.

## TRANSMISSION LOAD OPERATING AGREEMENT

Please check the appropriate line:

- \_\_\_\_\_ PG&E has installed transmission line selector switches.
- \_\_\_\_\_ The Load Entity installed transmission line switches.
- \_\_\_\_\_ The Load Entity has NOT installed transmission line switches, and does not plan on installing line selector switches

Should PG&E, in the future, determine that transmission line selector switches are required, to be installed on the PG&E transmission system to which the tap serving the Load Entity's facility is connected, in order to maintain current reliability or operability of PG&E's transmission system, the material and installation cost of the switches shall be at PG&E's expense.

Should PG&E, in the future, determine that the switches are NOT required, and the Load Entity chooses to request the switches to be installed on PG&E's Transmission System, and that such switches would solely benefit the Load Entity's service reliability, ability to restore service or prevent service interruption to the Load Entity, PG&E will install them as a Special Facility.

### 7. REFERENCES

The following reference materials are available for use by the Load Entity and its operating personnel. Copies may be requested from the Designated PG&E Switching Center:

- 7.1 **PG&E Standard Practice No. S1466--** A booklet listing all the standard operating orders followed by PG&E system operators.



## TRANSMISSION LOAD OPERATING AGREEMENT

- 7.2 **PG&E Standard Practice No. S1403** -- A document describing approved PG&E clearance procedures and instructions for obtaining clearances.
- 7.3 **PG&E Interconnection Handbook**
- 7.4 **Electric Rules 2, and 14**
- 7.5 **Load Entity agrees to comply with the additional requirements in Exhibit A: Load Entity Operations and Maintenance.**

### 8. GENERAL PROVISIONS

- 8.1 Choice of Laws: This Agreement shall be governed by and construed in accordance with the laws of the State of California, excluding any choice of law rules that direct the application of the laws of another jurisdiction.
- 8.2 Modification: This Agreement may be amended or modified only by a written instrument signed by the authorized representatives of both the parties.
- 8.3 Captions: Captions are included herein for ease of reference only. The captions are not intended to affect the meaning of the contents or scope of this Agreement.
- 8.4 Non-waiver: Failure by either party to enforce any right or obligation with respect to any matter arising in connection with this Agreement shall not constitute a waiver as to that matter or any other matter.
- 8.5 Interpretation: This Agreement is not intended to modify any PG&E or ISO tariff or rule filed with the California Public Utilities Commission or Federal Energy Regulatory Commission. In case of conflict between this Agreement and any PG&E or ISO tariff or rule, the tariff or rule shall govern. This agreement represents the entire understanding between the parties hereto relating to the operation of the Load Entity's substation, and supersedes any and all prior proposals or agreements, whether written or oral, that may exist between the parties. Where there is conflict or inconsistency with the express terms in this Agreement and



## TRANSMISSION LOAD OPERATING AGREEMENT

any documents referenced by this Agreement excluding the above referenced PG&E and ISO tariffs, the terms of this Agreement shall supersede such conflicting terms.

**8.6 DISPUTE RESOLUTION: IF A DISPUTE ARISES OUT OF OR RELATING TO THIS AGREEMENT, OR THE BREACH THEREOF, AND IF SAID DISPUTE CANNOT BE SETTLED THROUGH DIRECT DISCUSSIONS, THE PARTIES AGREE TO THE FIRST ENDEAVOR IN GOOD FAITH TO SETTLE THE DISPUTE IN AN AMICABLE MANNER WITHIN THIRTY (30) DAYS OF SUBMISSION TO MEDIATION UNDER THE MEDIATION RULES OF THE AMERICAN ARBITRATION ASSOCIATION BEFORE SEEKING RECOURSE IN A JUDICIAL FORUM. THE MEDIATION SHALL BE INITIATED BY THE WRITTEN REQUEST OF EITHER PARTY AND SHALL BE COMMENCED WITHIN FIFTEEN (15) DAYS OF RECEIPT OF SUCH NOTICE. THE PARTIES SHALL SHARE EQUALLY IN ANY EXPENSES INCURRED AS A RESULT OF THE MEDIATION.**

**9. NAME AND ADDRESS OF KEY PERSONNEL:**

The Transmission Load Entity:

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Phone:

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Fax:

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Designated PG&E

Switching Center:

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(Address) Switching Center

Phone:

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Fax:

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A party may change or supplement the addresses above by written notice to the other party. The Load Entity agrees to keep the Designated PG&E Switching Center informed of any change in its notice address.

**EXHIBIT A: Load Entity Operations and Maintenance – Caltrain Traction Power  
Station 2****1. Load Entity Technical Requirements and Compliance:**

In addition to complying with applicable interconnection requirements described in the PG&E Interconnection Handbook (or its successor) and relevant Tariffs, the Load Entity agrees to operate and maintain the facilities on the load side of the points of delivery and the Caltrain traction power system in accordance with the following technical requirements and compliance:

**1.1 Power Quality:**

Specifically with respect to voltage flicker, transient characteristics, resonance vulnerabilities, unbalanced characteristics and harmonic waveform distortion, Load Entity is responsible not to exceed the requirements set by the IEEE 519-2014, and IEEE 1453-2015 standards at the time of this Agreement. Pre- and post-interconnection performance measurement with evaluation and PG&E acceptance in the Load Entity's Electric Motor Units (or "EMUs") commissioning process is a requirement to facilitate compliance. PG&E approval of selected instrumentation, test procedures, connection points and the array of system and Load Entity operating conditions examined during the Load Entity performance measurement phase is a requirement in order to assure adequate recording is achieved for the power quality assessment. The testing will include all aspects of the provisions referenced above, but also may not be limited to these provisions as determined by PG&E, in that adverse impacts may exist outside of their scope. In the event that the Load Entity does not meet such standards due to the impacts that result from the operation and maintenance of the EMUs by the Load Entity, PG&E shall demonstrate to the Load Entity that such standards are not being met, and PG&E's requirements for the Load Entity to reasonably conform to such requirements.

**1.1.1. Power Quality**

The Load Entity agrees to comply with the IEEE 519-2014, and IEEE 1453-2015 standards, with respect to power quality issues.

**1.1.2. Voltage Imbalance and Motors**

The Load Entity agrees that the operation and maintenance of the Load Entity's EMUs shall not cause voltage imbalance at the point of common coupling between PG&E and Load Entity's facilities to exceed 2 ½ percent between phase to phase per PG&E's voltage imbalance requirement.



## **TRANSMISSION LOAD OPERATING AGREEMENT – EXHIBIT A**

### **1.1.3. Installation of Power Quality Monitoring**

Power quality monitoring will be installed at the Traction Power Station 2 , and data must be provided to PG&E upon request. The power quality meters must be certified to IEC 61000-4-30 Class A instrument.

## **1.2 Protective Relay Schemes:**

Protective relay applications and schemes will be as approved by PG&E for the PG&E-required devices at the point of common coupling as required per the PG&E Transmission Interconnection Handbook. Furthermore, any proposed changes to relay settings or modifications to protection schemes must be communicated for PG&E review and approval prior to implementing the changes.

## **2. PG&E Access to Load Entity's Facilities:**

Load Entity has granted PG&E an easement relating to its use and operation of facilities at the Load Entity's premises set forth in that certain easement granted to Pacific Gas and Electric Company, a corporation entitled "Easement Deed", dated October 11, 2021 and recorded November 12, 2021 as Document No. 25162607 of Official Records, Santa Clara County, California.

## **3. PG&E Metering on Load Entity's Property:**

Load Entity has authorized PG&E's use of Load Entity's property for metering and associated equipment as set forth in that certain agreement entitled Meter Room Agreement dated July 15, 2022 and recorded July 18, 2022 as Document No. 25337199 of Official Records, Santa Clara County, California. The following list of drawings indicates the single line diagrams of the Load Entity's Substation receiving service and indicates metering, protective relays and equipment owned, operated and maintained by PG&E.

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<u>4160481</u>	<u>Y5021</u>
<u>4160482</u>	<u>Y5133</u>
<u>4160483</u>	<u>Y5212</u>
<u>4160484</u>	<u>Y5251</u>
	<u>PG&amp;E Junction Box Layout</u>

## **TRANSMISSION LOAD OPERATING AGREEMENT – EXHIBIT A**

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This Transmission Load Operating Agreement does not authorize California High Speed Rail (CAHSR) train operation on the Caltrain Electrification System. At such time when accurate information on CAHSR operation is available and using PCEP, Caltrain will engage PG&E and perform applicable interconnection requirements including studies that will include but not be limited to: impacts on protection relay performance considering blended CAHSR and Caltrain train response(s) to electrical faults during propulsion and regenerative braking modes of operation, voltage flicker, transient characteristics, resonance vulnerabilities, unbalanced characteristics and harmonic waveform distortion; implementation of mitigation, if necessary; and execution of agreements that must be completed prior to interconnection with PG&E's transmission system.

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## **Attachment 3**

**Signed Transmission Load Operating Agreement for  
Caltrain Electrification**



## TRANSMISSION LOAD OPERATING AGREEMENT

### DISTRIBUTION

- ☐ XXXX
- ☐ XXXX
- ☐ XXXX
- ☐ XXXX
- ☐ \_\_\_\_\_

### REFERENCE

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### RECITALS

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B. Among other things, this Load Operating Agreement obligates the Load Entity to operate its Substation in a safe and prudent manner.

C. As part of this obligation, it is important that the Load Entity stay in close contact with PG&E system operators.

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† Information collected on this form is used in accordance with PG&E's Privacy Policy.  
The Privacy Policy is available at [pge.com/privacy](http://pge.com/privacy).

# TRANSMISSION LOAD OPERATING AGREEMENT

## AGREEMENT

THEREFORE, in consideration of the rights and responsibilities set forth herein, the parties agree as follows:

### 1. DEFINITIONS

When underlined, the following terms shall have the following meanings:

"Clearance Point" -- The points that isolate equipment from possible sources of energy.

"Designated PG&E Switching Center" -- The PG&E location identified in Paragraph 9 of this Agreement, with operational jurisdiction over the Load Entity's Substation. The Designated PG&E Switching Center is staffed 24 hours a day.

"Emergency" -- An abnormal condition or situation that adversely affects, or potentially may adversely affect, PG&E's Electric System Integrity.

"Interconnection Facilities" -- All apparatus installed to interconnect and deliver power between the PG&E system and the Load Entity's substation. Interconnection Facilities include, but are not limited to, connection, transformation, switching, metering, and communications equipment, as well as any necessary additions, modifications and reinforcements to the PG&E system necessitated as a result of interconnecting the Load Entity's Facility to the PG&E system. Interconnection Facilities also include control and safety equipment to protect (1) the PG&E system and its customers from faults occurring at the Load Entity's Facility and substation, and (2) the Load Entity's Facility and substation from faults occurring on the PG&E system or on the system of others to which the PG&E system is directly or indirectly connected.



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“Non-Test” -- A procedure used in connection with work on a live line or near an energized circuit. In a Non-Test, PG&E will require that the Load Entity contact the Designated PG&E Switching Center before re-energizing a circuit following an automatic trip.

“PG&E Electric System Integrity” -- The state of operation of PG&E’s electric system in a manner that is deemed to minimize the risk of injury to persons and/or property and enable PG&E to provide adequate and reliable electric service to its customers.

### 2. TERM OF AGREEMENT

This Agreement shall be binding upon execution by both parties. It shall terminate thirty days after the date on which the Load Entity’s substation facility ceases to be interconnected to the PG&E electric system. This Agreement may also be terminated by mutual written consent of the parties.

### 3. RESPONSIBILITY AND AUTHORITY

- 3.1 The Load Entity understands and agrees that it must satisfy the applicable interconnection requirements described in the PG&E Interconnection Handbook (or its successor) before the Load Entity’s Substation can operate in parallel with the PG&E system.
- 3.2 It is the responsibility of the Load Entity to implement the operating guidelines contained in this Agreement. The Load Entity shall ensure that its operating personnel are familiar with the procedures and guidelines in this Agreement.
- 3.3 The Designated PG&E Switching Center is authorized to disconnect the Load Entity from the PG&E electric system if the Load Entity fails to meet the requirements set forth in this Agreement. Prior to PG&E disconnecting the Load Entity, PG&E shall provide written notice to the Load Entity detailing the Load Entity’s failure to adhere to such requirements and provide the Load Entity thirty (30) days to correct such



## TRANSMISSION LOAD OPERATING AGREEMENT

deficiency. PG&E reserves the right to immediately disconnect the Load Entity should such deficiencies, as determined by PG&E, cause immediate or imminent hazards to the safety of the Public or PG&E's employees.

- 3.4 The Load Entity understands that the voltage of PG&E's electric transmission system is not regulated and may vary widely. The voltage levels will fluctuate depending on system operation and system conditions. In accordance with the PG&E Interconnection Handbook, the Load Entity shall install and maintain the necessary equipment to maintain proper power factor and voltage at the point of interconnection.
  - 3.5 Power factor correction is the responsibility of the Load Entity. When the Load Entity is receiving power from the PG&E system, metered power factors outside acceptable ranges may result in additional charges, as specified in PG&E's tariffs and operating standards.
  - 3.6 If PG&E provides assistance in the operation or maintenance of the Load Entity's Substation without a written agreement, PG&E assumes no liability for any loss or damage, direct, indirect or consequential, arising from or related to any services PG&E may provide. PG&E reserves the right to charge the Load Entity for all such services.
4. **OPERATION OF INTERCONNECTION FACILITIES AND SUBSTATION**
- 4.1 The Load Entity shall maintain operating communications with the Designated PG&E Switching Center. The operating communications shall include, but not be limited to, system paralleling or separation, scheduled and unscheduled shutdowns, and equipment clearances.
  - 4.2 All oral operating communications shall be conducted through the Designated PG&E Switching Center. The Load Entity agrees to maintain direct phone service so that PG&E can give instructions to the Load Entity or its designated operator.





## TRANSMISSION LOAD OPERATING AGREEMENT

- 4.3 The Load Entity agrees to notify the Designated PG&E Switching Center of the following:
- a. The current names and 24-hour phone numbers of the personnel responsible for operating and maintaining the Load Entity's Substation.
  - b. Any Emergency situation, or any request that PG&E de-energize a portion of the system under its control.
  - c. Any changes in the mechanical or electric condition of the Load Entity's Substation that may affect the reliability of the Load Entity's service or the PG&E electric system.
  - d. Immediately upon discovery, any miss operation or inoperable condition of a PG&E-required interconnection relay, circuit breaker, or other protective device.
  - e. Immediately upon discovery, any operation of a PG&E-required interconnection relay, circuit breaker, or other protective device. Relay targets that caused the circuit breaker or protective device to operate.
  - f. Plans to manually parallel or separate from the PG&E system and the times of actual manual parallels and separations. Emergency separations shall be reported as soon as conditions permit.
- 4.4 Under normal conditions, the Load Entity shall give as much advance notice as possible (a minimum of 168 hours if connected to 230 kV or 120 hours if connected to 115 kV or below is requested) to the Designated PG&E Switching Center when planning to perform work that may affect PG&E's electric system. At a minimum, the notice shall include:
- a. Nature of the work to be performed.
  - b. Date and time work will begin.
  - c. Date and time work will be completed.
  - d. Apparatus to be cleared and the Clearance Points required.





## TRANSMISSION LOAD OPERATING AGREEMENT

- e. Name and telephone number of the person in charge of the work.
  - f. Whether or not protective grounds will be installed.
- 4.5 If the Load Entity wishes to perform work on its own facilities which would normally be energized by PG&E-controlled source(s) of energy, the Load Entity may request that PG&E open, lock and tag PG&E's associated disconnect device to isolate the Load Entity's facilities from PG&E source(s) of energy. PG&E will also establish the disconnect device(s) as an open Clearance Point(s) and install "Man on Line" tags (see PG&E's General Operating Instructions).
- 4.6 PG&E assumes no responsibility for equipment energized by the Load Entity's substation or by any other means. The Load Entity agrees that any work it performs is at its own risk. The Load Entity shall take all necessary steps to ensure that work is conducted in compliance with all applicable federal, state and local laws and regulations and in a manner that does not endanger the safety of persons or equipment.
- 4.7 The Load Entity must open its interconnection disconnect switch if PG&E requests a Clearance Point. A qualified PG&E employee will observe that the switch is open, lock it open with a PG&E lock, and attach a filled-out "Man-on-Line" tag to indicate it is a Clearance Point.
- 4.8 In an Emergency, the Load Entity agrees to expeditiously open the interconnection disconnect switch upon notification from the PG&E Designated Switching Center.
- 4.9 Under normal conditions, PG&E will give advance notice of plans to perform work, which will affect the Load Entity's access to the PG&E system. PG&E reserves the right to charge the Load Entity the additional cost for work performed during times other than normal business hours (Non-Holidays, Monday through Friday, 8:00 A.M. to 5:00 P.M.) when the schedule of such work is negotiable, as determined by PG&E. PG&E will provide the Load Entity with an estimate of the additional cost and if the Load Entity still desires the work to be



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performed during non-normal business hours and PG&E does perform the work, PG&E shall charge the Load Entity the actual costs of the work, the amount of which shall not exceed the cost estimate.

- 4.10 Under Emergency conditions, the Designated PG&E Switching Center may without notice and at any time interrupt service to the Load Entity's Facility if a situation exists which may adversely affect PG&E Electric System Integrity or upon any emergency request that PG&E de-energize a portion of the system under its control.
5. **MAINTENANCE OF INTERCONNECTION EQUIPMENT OWNED BY THE LOAD ENTITY**
- 5.1 The Load Entity agrees to maintain all PG&E-required Interconnection Facilities' devices in service, with relay settings as recorded on PG&E's "Relay Test Report". Proposed changes in relay settings must be submitted in writing to PG&E for approval. Any modification of the existing interconnection or protection scheme requires PG&E's prior written approval.
- 5.2 PG&E required Interconnection Facilities owned by the Load Entity shall be periodically tested and maintained at the manufacturer's accepted specifications, but at least every four years, by qualified personnel. Copies of equipment test reports shall be forwarded to PG&E for review.
6. **EQUIPMENT OWNED BY THE LOAD ENTITY FOR RELIABILITY, OPERABILITY OR PARALLEL OPERATION.**

This provision applies where the Load Entity is interconnected to the PG&E transmission system.

In the interest of safety, all customers must notify PG&E before operating ANY generation sources capable of parallel operation, or operating equipment that maintains current reliability or operability of PG&E's electrical system, which are interconnected to the Load Entity's



## TRANSMISSION LOAD OPERATING AGREEMENT

substation, the Load Entity's electrical system, or the PG&E electrical system. The Load Entity agrees to comply with the requirements identified in the PG&E Interconnection Handbook for all such equipment and generation sources capable of parallel operation with PG&E's electrical system.

### Standby Generator

Please check the appropriate line:

- ☐ The Load Entity has installed a standby generator.
- ☒ The Load Entity does not have and does not plan to install a standby generator.
- ☐ While the Load Entity does not currently have a standby generator installed, it plans to install a standby generator in the future. The Load Entity will notify the Designated PG&E Switching Center before operating this generator in parallel with the PG&E system.

### Line Selector Switches

Unlike the PG&E electric distribution system, the PG&E transmission system does not have multiple feeds. If the line serving the Load Entity's substation is out of service due to line outages or planned maintenance, then service to the Load Entity may also be interrupted. Please refer to Electric Rule 14, Shortage of Supply and Interruption of Delivery. Where PG&E or the Load Entity has installed line selector switches for reliability, maintenance or operability they will be operated in compliance Sections 3 and 4 in this Agreement.



## TRANSMISSION LOAD OPERATING AGREEMENT

Please check the appropriate line:

- \_\_\_\_\_ PG&E has installed transmission line selector switches.
- \_\_\_\_\_ The Load Entity installed transmission line switches.
- X   The Load Entity has NOT installed transmission line switches, and does not plan on installing line selector switches

Should PG&E, in the future, determine that transmission line selector switches are required, to be installed on the PG&E transmission system to which the tap serving the Load Entity's facility is connected, in order to maintain current reliability or operability of PG&E's transmission system, the material and installation cost of the switches shall be at PG&E's expense.

Should PG&E, in the future, determine that the switches are NOT required, and the Load Entity chooses to request the switches to be installed on PG&E's Transmission System, and that such switches would solely benefit the Load Entity's service reliability, ability to restore service or prevent service interruption to the Load Entity, PG&E will install them as a Special Facility.

### 7. REFERENCES

The following reference materials are available for use by the Load Entity and its operating personnel. Copies may be requested from the Designated PG&E Switching Center:

- 7.1 **PG&E Standard Practice No. S1466**-- A booklet listing all the standard operating orders followed by PG&E system operators.



## TRANSMISSION LOAD OPERATING AGREEMENT

- 7.2 **PG&E Standard Practice No. S1403** -- A document describing approved PG&E clearance procedures and instructions for obtaining clearances.
  - 7.3 **PG&E Interconnection Handbook**
  - 7.4 **Electric Rules 2, and 14**
  - 7.5 **Load Entity agrees to comply with the additional requirements in Exhibit A: Load Entity Operations and Maintenance.**
8. **GENERAL PROVISIONS**
- 8.1 Choice of Laws: This Agreement shall be governed by and construed in accordance with the laws of the State of California, excluding any choice of law rules that direct the application of the laws of another jurisdiction.
  - 8.2 Modification: This Agreement may be amended or modified only by a written instrument signed by the authorized representatives of both the parties.
  - 8.3 Captions: Captions are included herein for ease of reference only. The captions are not intended to affect the meaning of the contents or scope of this Agreement.
  - 8.4 Non-waiver: Failure by either party to enforce any right or obligation with respect to any matter arising in connection with this Agreement shall not constitute a waiver as to that matter or any other matter.
  - 8.5 Interpretation: This Agreement is not intended to modify any PG&E or ISO tariff or rule filed with the California Public Utilities Commission or Federal Energy Regulatory Commission. In case of conflict between this Agreement and any PG&E or ISO tariff or rule, the tariff or rule shall govern. This agreement represents the entire understanding between the parties hereto relating to the operation of the Load Entity's substation, and supersedes any and all prior proposals or agreements, whether written or oral, that may exist between the parties. Where there is conflict or inconsistency with the express terms in this Agreement and





## TRANSMISSION LOAD OPERATING AGREEMENT

any documents referenced by this Agreement excluding the above referenced PG&E and ISO tariffs, the terms of this Agreement shall supersede such conflicting terms.

**8.6 DISPUTE RESOLUTION: IF A DISPUTE ARISES OUT OF OR RELATING TO THIS AGREEMENT, OR THE BREACH THEREOF, AND IF SAID DISPUTE CANNOT BE SETTLED THROUGH DIRECT DISCUSSIONS, THE PARTIES AGREE TO THE FIRST ENDEAVOR IN GOOD FAITH TO SETTLE THE DISPUTE IN AN AMICABLE MANNER WITHIN THIRTY (30) DAYS OF SUBMISSION TO MEDIATION UNDER THE MEDIATION RULES OF THE AMERICAN ARBITRATION ASSOCIATION BEFORE SEEKING RECOURSE IN A JUDICIAL FORUM. THE MEDIATION SHALL BE INITIATED BY THE WRITTEN REQUEST OF EITHER PARTY AND SHALL BE COMMENCED WITHIN FIFTEEN (15) DAYS OF RECEIPT OF SUCH NOTICE. THE PARTIES SHALL SHARE EQUALLY IN ANY EXPENSES INCURRED AS A RESULT OF THE MEDIATION.**

**9. NAME AND ADDRESS OF KEY PERSONNEL:**

The Transmission Load Entity:	<u>Ming Li, Rail Development, Manager of</u> <u>Traction Power/Electrical Engineering</u>
Phone:	<u>650-464-7878</u>
Fax:	<u></u>
Designated PG&E Switching Center:	<u>Grid Control Center</u> <u>Switching Center</u> (Address)
Phone:	<u>(707) 449-6700</u>
Fax:	<u>(707) 449-0739</u>

A party may change or supplement the addresses above by written notice to the other party. The Load Entity agrees to keep the Designated PG&E Switching Center informed of any change in its notice address.

## TRANSMISSION LOAD OPERATING AGREEMENT

### 10. CPUC AUTHORITY

This Agreement shall at all times be subject to such changes or modifications by the Public Utilities Commission of the State of California as said Commission may, from time to time, direct in the exercise of its jurisdiction.

### 11. SIGNATURES

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives, and it is effective as of the last date set forth below.

Peninsula Corridor Joint Powers Board

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Customer/Company

Pranaya Shrestha

---

Authorized by (Print)  
E-SIGNED by Pranaya Shrestha  
on 2022-07-26 18:55:46 PDT

---

Signature

Chief Officer, Caltrain Modernization Program

---

Title

July 26, 2022

---

Date

**PACIFIC GAS AND ELECTRIC COMPANY**

---

Rod Robinson

---

Authorized by (Print)  
*Roderick O. Robinson*

---

Signature

Sr. Director, Transmission System Ops

---

Title

July 27, 2022

---

Date

# TRANSMISSION LOAD OPERATING AGREEMENT

## EXHIBIT A: Load Entity Operations and Maintenance – Caltrain Traction Power Station 2

### 1. Load Entity Technical Requirements and Compliance:

In addition to complying with applicable interconnection requirements described in the PG&E Interconnection Handbook (or its successor) and relevant Tariffs, the Load Entity agrees to operate and maintain the facilities on the load side of the points of delivery and the Caltrain traction power system in accordance with the following technical requirements and compliance:

#### 1.1 Power Quality:

Specifically with respect to voltage flicker, transient characteristics, resonance vulnerabilities, unbalanced characteristics and harmonic waveform distortion, Load Entity is responsible not to exceed the requirements set by the IEEE 519-2014, and IEEE 1453-2015 standards at the time of this Agreement. Pre- and post-interconnection performance measurement with evaluation and PG&E acceptance in the Load Entity's Electric Motor Units (or "EMUs") commissioning process is a requirement to facilitate compliance. PG&E approval of selected instrumentation, test procedures, connection points and the array of system and Load Entity operating conditions examined during the Load Entity performance measurement phase is a requirement in order to assure adequate recording is achieved for the power quality assessment. The testing will include all aspects of the provisions referenced above, but also may not be limited to these provisions as determined by PG&E, in that adverse impacts may exist outside of their scope. In the event that the Load Entity does not meet such standards due to the impacts that result from the operation and maintenance of the EMUs by the Load Entity, PG&E shall demonstrate to the Load Entity that such standards are not being met, and PG&E's requirements for the Load Entity to reasonably conform to such requirements.

##### 1.1.1. Power Quality

The Load Entity agrees to comply with the IEEE 519-2014, and IEEE 1453-2015 standards, with respect to power quality issues.

##### 1.1.2. Voltage Imbalance and Motors

The Load Entity agrees that the operation and maintenance of the Load Entity's EMUs shall not cause voltage imbalance at the point of common coupling between PG&E and Load Entity's facilities to exceed 2 ½ percent between phase to phase per PG&E's voltage imbalance requirement.



# TRANSMISSION LOAD OPERATING AGREEMENT

## 1.1.3. Installation of Power Quality Monitoring

Power quality monitoring will be installed at the Traction Power Station 2 , and data must be provided to PG&E upon request. The power quality meters must be certified to IEC 61000-4-30 Class A instrument.

## 1.2 Protective Relay Schemes:

Protective relay applications and schemes will be as approved by PG&E for the PG&E-required devices at the point of common coupling as required per the PG&E Transmission Interconnection Handbook. Furthermore, any proposed changes to relay settings or modifications to protection schemes must be communicated for PG&E review and approval prior to implementing the changes.

## 2. PG&E Access to Load Entity's Facilities:

Load Entity has granted PG&E an easement relating to its use and operation of facilities at the Load Entity's premises set forth in that certain easement granted to Pacific Gas and Electric Company, a corporation entitled "Easement Deed", dated October 11, 2021 and recorded November 12, 2021 as Document No. 25162607 of Official Records, Santa Clara County, California.

## 3. PG&E Metering on Load Entity's Property:

Load Entity has authorized PG&E's use of Load Entity's property for metering and associated equipment as set forth in that certain agreement entitled Meter Room Agreement dated July 15, 2022 and recorded July 18, 2022 as Document No. 25337199 of Official Records, Santa Clara County, California. The following list of drawings indicates the single line diagrams of the Load Entity's Substation receiving service and indicates metering, protective relays and equipment owned, operated and maintained by PG&E.

PG&E Drawings: Traction Power Station 2	Caltrain Drawings: Traction Power Station 2
4160480	Y5019
4160481	Y5021
4160482	Y5133
4160483	Y5212
4160484	Y5251
	PG&E Junction Box Layout

## **TRANSMISSION LOAD OPERATING AGREEMENT**

### **4. Future California High Speed Rail:**

This Transmission Load Operating Agreement does not authorize California High Speed Rail (CAHSR) train operation on the Caltrain Electrification System. At such time when accurate information on CAHSR operation is available and using PCEP, Caltrain will engage PG&E and perform applicable interconnection requirements including studies that will include but not be limited to: impacts on protection relay performance considering blended CAHSR and Caltrain train response(s) to electrical faults during propulsion and regenerative braking modes of operation, voltage flicker, transient characteristics, resonance vulnerabilities, unbalanced characteristics and harmonic waveform distortion; implementation of mitigation, if necessary; and execution of agreements that must be completed prior to interconnection with PG&E's transmission system.

### **5. References:**

This Agreement only applies to Caltrain's operating specifications, including train design, as studied in the Pacific Gas and Electric Company, July 29, 2016, System Impact Study: Caltrain Electrification Project – Blended Load Final Report, and Balfour Beatty Infrastructure Inc., Caltrain Peninsula Corridor Joint Powers Board Electrification Project Single Phase Study TPS-2 Final, Revision 2, July 6, 2022.

**PG&E Gas and Electric  
Advice Submittal List  
General Order 96-B, Section IV**

AT&T  
Albion Power Company

Alta Power Group, LLC  
Anderson & Poole

Atlas ReFuel  
BART

Barkovich & Yap, Inc.  
Braun Blaising Smith Wynne, P.C.  
California Cotton Ginners & Growers Assn  
California Energy Commission

California Hub for Energy Efficiency  
Financing

California Alternative Energy and  
Advanced Transportation Financing  
Authority  
California Public Utilities Commission  
Calpine

Cameron-Daniel, P.C.  
Casner, Steve  
Center for Biological Diversity

Chevron Pipeline and Power  
City of Palo Alto

City of San Jose  
Clean Power Research  
Coast Economic Consulting  
Commercial Energy  
Crossborder Energy  
Crown Road Energy, LLC  
Davis Wright Tremaine LLP  
Day Carter Murphy

Dept of General Services  
Don Pickett & Associates, Inc.  
Douglass & Liddell

East Bay Community Energy Ellison  
Schneider & Harris LLP  
Engineers and Scientists of California

GenOn Energy, Inc.  
Goodin, MacBride, Squeri, Schlotz &  
Ritchie  
Green Power Institute  
Hanna & Morton  
ICF  
International Power Technology

Intertie

Intestate Gas Services, Inc.  
Kelly Group  
Ken Bohn Consulting  
Keyes & Fox LLP  
Leviton Manufacturing Co., Inc.

Los Angeles County Integrated  
Waste Management Task Force  
MRW & Associates  
Manatt Phelps Phillips  
Marin Energy Authority  
McClintock IP  
McKenzie & Associates

Modesto Irrigation District  
NLine Energy, Inc.  
NRG Solar

OnGrid Solar  
Pacific Gas and Electric Company  
Peninsula Clean Energy

Pioneer Community Energy

Public Advocates Office

Redwood Coast Energy Authority  
Regulatory & Cogeneration Service, Inc.  
SCD Energy Solutions  
San Diego Gas & Electric Company

SPURR  
San Francisco Water Power and Sewer  
Semptra Utilities

Sierra Telephone Company, Inc.  
Southern California Edison Company  
Southern California Gas Company  
Spark Energy  
Sun Light & Power  
Sunshine Design  
Stoel Rives LLP

Tecogen, Inc.  
TerraVerde Renewable Partners  
Tiger Natural Gas, Inc.

TransCanada  
Utility Cost Management  
Utility Power Solutions  
Water and Energy Consulting Wellhead  
Electric Company  
Western Manufactured Housing  
Communities Association (WMA)  
Yep Energy