

## VEHICLE-GRID INTEGRATION PILOT #3 (MICROGRIDS) PHASE I AGREEMENT

THIS AGREEMENT (“Agreement”) is entered into by and between Cal Poly Humboldt Sponsored Programs Foundation (SPF) on behalf of Schatz Energy Research Center (“Schatz Center”) and Pacific Gas and Electric Company (“PG&E”), each of which may be referred to herein separately as a “Party” or together as the “Parties.”

WHEREAS, PG&E received California Public Utilities Commission approval to implement the Vehicle-Grid Integration (“VGI”) Pilot #3 (“Microgrid Pilot” or “Pilot 3”) in Resolution 5192-E, to test the ability to use electric vehicles (“EVs”) to charge and discharge in a multi-customer microgrid to support community resiliency (“Pilot Purpose”). Phase 1 of the Microgrid Pilot includes testing a limited cohort of 5-10 bidirectional EV chargers (“Vehicle-to-grid chargers” or “V2G Chargers”) located in one or more multi-customer microgrids, in which the vehicle sites are paid for, in whole or in part, with Microgrid Pilot funds (excluding the vehicle cost) as incentive payments.

WHEREAS, the Redwood Coast Airport Microgrid (“RCAM”), operated by Schatz Center on behalf of the Redwood Coast Energy Authority, was selected as the first pilot site for the Microgrid Pilot Phase 1.

WHEREAS, pursuant to this Agreement, PG&E will reimburse SPF/Schatz Center for costs related to project management, site design, bi-directional charger procurement, installation support, site commissioning, and microgrid testing at RCAM as the selected Microgrid Pilot Phase 1 site through three incentive payments.

NOW, THEREFORE, the Parties agree as follows:

1. **Term and Termination:** This Agreement is effective as of the latter date of the signatures below (“Execution Date”) and continues until thirty (30) days after the final Incentive Payment by PG&E is transmitted to SPF/Schatz Center (“Term”), unless sooner terminated by either Party with seven (7) days prior written Notice (“Termination”).
  
2. **Performance Obligations:**
  - a. **SPF/Schatz Center Performance Obligations:** SPF/Schatz Center agrees to perform the following obligations during the Term of this Agreement:
    - i. **Project management and administration.** As part of project management and administration to install V2G Chargers, Schatz Center will coordinate with Humboldt County Aviation (“Aviation”) on the scope of the project.
    - ii. **Electrical engineering design.** Schatz Center will perform or cause to be performed the electrical engineering design for four (4) V2G Charger stations. The engineering design will be in accordance with applicable codes and the specifications of the V2G Charger’s station manufacturer, Fermata Energy (“Fermata”), following the direction of Aviation with regards to which meters will feed the chargers and charger placement.
    - iii. **Obtain interconnection approvals.** Schatz Center will submit the interconnection applications and complete the approval process for each V2G charger.
    - iv. **Controls Engineering Design.** Schatz Center engineers will modify the RCAM Generation Controller Code with a program that will lower the nominal frequency when the microgrid is islanded and the Battery Energy Storage System (“BESS”)

State of Charge (“SOC”) reaches the existing setpoint that triggers EV charging load shedding, including the following features:

1. The program will set the nominal frequency setpoint to a value in Hz to be determined with PG&E.
  2. The program will reset the nominal frequency setpoint to 60.0 Hz when the BESS SOC reaches the islanded load shed exit setpoint or if the microgrid reconnects to the PG&E grid.
- v. **Charger Installation:** The Schatz Center will subcontract the installation of the V2G chargers to the County of Humboldt Aviation Division. Schatz Center engineers will observe the installation and verify conformance with approved electrical design plans and specifications.
- vi. **Charger Commissioning Test:** Schatz Center engineers, in coordination with PG&E and Fermata, will verify that the V2G Chargers work as expected when RCAM is in grid-connected mode, including the following tasks:
1. Prepare and execute a commissioning plan for the V2G chargers.
  2. Connect compatible Nissan Leaf vehicles provided by Aviation and observe demand charge management functionality.
  3. Verify driver interface with V2G Chargers operate per expectations.
- vii. **Microgrid Testing:** Schatz Center engineers, in coordination with PG&E and Fermata, will verify that the chargers work as expected when RCAM is in islanded mode, including the following tasks:
1. Prepare a test plan for islanded operations to test V2G Charger response when the islanded microgrid frequency is shifted up and down. This will involve coordinating with the Redwood Coast Energy Authority, California Independent System Operator, and PG&E Distribution Control Center to get mutual agreement on the test plan and scheduling.
  2. Upload and test the modified Generation Controller code to the RCAM generation controller:
    - a. Step 1: Verify that the frequency shifts downward as expected, including regression testing to ensure that the updated Generation Controller settings do not impact pre-existing functionality.
    - b. Step 2: Verify that the V2G chargers respond as expected to shift the islanded frequency up and down.
  3. Complete the test per the test plan with PG&E, Aviation, and Fermata and document the results.
- viii. **Transfer of software, revenue sharing, and cloud maintenance fees to Airport.** PG&E acknowledges that SPF/Schatz Center intends to convey to Airport a portion of the applicable Incentive Payment Amount to cover software, revenue sharing, and cloud maintenance fees.
- b. **PG&E Performance Obligations:** PG&E agrees to pay SPF/Schatz Center the Incentive Payment Amounts associated with the Incentive Payment number indicated in the table below (“Incentive Payment Amount”) within ten (10) business days of SPF/Schatz Center completing the applicable Milestone Action (as described in the table below) and submitting an invoice. SPF/Schatz Center’s Notice of completion of the applicable Milestone Actions below shall be provided pursuant to Section 7.

Incentive Payment Number	Incentive Payment Amount	Milestone Action	(Anticipated Milestone Action timing)
Incentive Payment #1 Incentive Payment #1.5	\$76,483 plus interconnection fees (estimated to be \$13,125)	Schatz Center submits technical memo describing design and draft Project Plan to PG&E.  #1.5 Final accounting of PG&E interconnection engineering expenses	March 2024
Incentive Payment #2	\$76,524	Schatz Center submits proof of receipt of chargers at ATS lab and project site.	April 2024
Incentive Payment #3	\$110,591	Schatz Center submits photographs of completed installation and updates the firmware on the chargers to support frequency droop.	October 2024
Incentive Payment #4	\$32,554	Schatz Center submits draft and final versions of commissioning plan and testing plan which include testing results to PG&E.	December 2024

- c. **Failure to Meet Performance Obligations:** If either party fails to meet its Performance Obligations, the non-defaulting party shall send Notice to the defaulting party pursuant to the Dispute Resolution process as set forth in Section 11. The Milestone Actions and/or timing may be modified in consultation with PG&E over the course of the term of the Agreement. In the event that the County of Humboldt Aviation Division does not agree to subcontract with SPF and/or does not secure full funding for parking lot construction, Sections 2.a.v-viii of this Agreement may not be completed. In that event, the Performance Obligations in Section 2.a.v-viii may be modified in consultation with PG&E, or the Agreement may be terminated without penalty under Section 1, in which case Incentive Payments #3 and #4 will not be paid by PG&E.
3. **Indemnifications:** Schatz Center shall indemnify, defend, and hold PG&E harmless from and against all third-party claims or losses resulting from the installation, use, and ongoing operation of the V2G Chargers as part of RCAM.
4. **Limitations of Liability:** TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, PG&E SHALL NOT BE LIABLE UNDER ANY CIRCUMSTANCES, WHETHER IN CONTRACT, TORT, EQUITY, OR OTHERWISE, FOR ANY INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, PUNITIVE, OR EXEMPLARY DAMAGES, EVEN IF SUCH DAMAGES ARE FORESEEABLE, AND REGARDLESS OF WHETHER OR NOT PG&E HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR UNRECOVERED OVERHEAD AND, UNLESS EXPRESSLY AUTHORIZED IN ADVANCE IN WRITING AND SPECIFICALLY ASSUMED BY PG&E, COMMITMENTS TO THIRD PARTIES, SUCH AS SUBCONTRACTS, RENTAL OR LEASE AGREEMENT(S), AND PERSONAL SERVICES CONTRACTS.
5. **Relationships:** Nothing contained in this Agreement shall be deemed to constitute either Party a partner, joint venturer, or employee of the other Party for any purpose.

6. **Confidentiality:** Each Party agrees that it shall not disclose any Confidential Information received from the other Party in performing the obligations, or activities stemming from the Performance Obligations, in this Agreement without the prior written consent. “Confidential Information” includes confidential and proprietary documents, records, reports, agreements and associated documents, all technical, financial and business information of any kind, all written procedures, all data, specifications, technology, ideas, know-how, improvements, maps, technical drawings, inventions (whether or not patentable or copyrightable), or trade secrets that are provided by or on behalf of one Party and marked “Confidential” or include similar words or phrases to indicate that it is Confidential Information under this Agreement. The Party receiving Confidential Information agrees to use the Confidential Information only for the Pilot Purpose.
7. **Notices:** Any notice required to be sent or given under this Agreement will be sent via electronic mail, addressed all the following:

Name, Title <i>or</i> Name of Mailbox	Email
<b>PG&amp;E:</b> Chris Moris, Principal Product Manager Sarah Swickard, Manager Wendy Cornish, Project Manager	<a href="mailto:Christopher.moris@pge.com">Christopher.moris@pge.com</a> <a href="mailto:Sarah.swickard@pge.com">Sarah.swickard@pge.com</a> <a href="mailto:Wendy.cornish@pge.com">Wendy.cornish@pge.com</a>
<b>SPF/Schatz Center:</b> Kacie Flynn, Executive Director, SPF David Carter, Principal Investigator, Schatz Center	<a href="mailto:kef16@humboldt.edu">kef16@humboldt.edu</a> <a href="mailto:david.carter@humboldt.edu">david.carter@humboldt.edu</a>

8. **Governing Law:** This Agreement is governed by California law.
9. **Representations and Warranties:** Each Party represents it has the full power and authority to execute and deliver this Agreement and to perform its terms and conditions and warrants that it shall exercise reasonable care, diligence, and good faith in the performance of its duties hereunder.
10. **Assignment:** This Agreement may not be assigned without PG&E’s prior written consent.
11. **Dispute Resolution:** Any dispute arising between the Parties relating to this Agreement shall be reduced to writing and referred to the Parties’ designated representative for resolution. The Parties shall be required to meet and confer to resolve any such dispute. The Parties agree to participate in non-binding mediation as a condition precedent to commencing litigation for all claims or disputes relating to this Agreement.
12. **Survival:** The provisions of this Agreement which by their nature should survive expiration or Termination of this Agreement, including but not limited to indemnity, liability, assignment, warranties, and confidentiality, shall survive such expiration or Termination.
13. **Counterparts:** This Agreement may be executed in counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

Fermata Development Schedule for RCAM VGI Pilot #3		
<b>Phase 1 - Multi Charger</b> Installation and Commissioning at RCAM airport (for standard DCM)	5/1/2024	8/1/2024
<b>Phase 2 - (INTERNAL) Single Charger Only:</b> Fermata's In-house Hardware Development POC at Blacksburg (For Frequency Droop at ATS)	2/1/2024	3/25/2024
<b>Phase 3 - Single Charger</b> Installation and Commissioning at ATS (for Frequency Droop, No DCM/DR)	4/1/2024	4/12/2024
<b>Phase 4 - Single Charger Only:</b> In house Software Development and Human in the Loop DCM	7/1/2024	9/4/2024
<b>Phase 5 - Single Charger Only</b> Phase 3 - In house End-to-End Integration Testing	9/4/2024	9/27/2024
<b>Phase 6 - Multi-charger:</b> Release to Customer	10/1/2024	12/31/2024

**Note: dates based on contract signing by 3/15/24**

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the last dated signature below.

<b>PACIFIC GAS AND ELECTRIC COMPANY</b> <small>DocuSigned by:</small> <i>Sarah Swickard</i> <small>(SIGNATURE)</small> Sarah Swickard <small>(PRINT NAME)</small> Manager, Vehicle Grid Integration <small>(PRINT TITLE)</small> 03/19/2024 <small>(Date)</small>	<b>CAL POLY HUMBOLDT SPONSORED PROGRAMS FOUNDATION</b> <small>DocuSigned by:</small> <i>Kacie Flynn</i> <small>(SIGNATURE)</small> Kacie Flynn <small>(PRINT NAME)</small> SPF Executive Director <small>(PRINT TITLE)</small> 03/18/2024 <small>(Date)</small>
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