

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**



**FILED**

12/15/23

04:59 PM

R1909009

Order Instituting Rulemaking Regarding  
Microgrids Pursuant to Senate Bill 1339 and  
Resiliency Strategies.

Rulemaking 19-09-009  
(Filed September 12, 2019)

**PEARLX INFRASTRUCTURE LLC PROPOSED PRO-FORMA STANDARD  
MICROGRID MULTI PROPERTY TARIFF**

Vidhya Prabhakaran  
Anna Fero  
DAVIS WRIGHT TREMAINE LLP  
50 California Street, 23rd Floor  
San Francisco, CA 94111  
Tel. (415) 276-6500  
Fax. (415) 276-6599  
Email: vidhyaprabhakaran@dwt.com  
Email: annafero@dwt.com

Attorneys for PearlX Infrastructure LLC

December 15, 2023

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding  
Microgrids Pursuant to Senate Bill 1339 and  
Resiliency Strategies.

Rulemaking 19-09-009  
(Filed September 12, 2019)

**PEARLX INFRASTRUCTURE LLC PROPOSED PRO-FORMA STANDARD  
MICROGRID MULTI PROPERTY TARIFF**

Pursuant to the October 23, 2023, *Assigned Commissioner and Administrative Law Judge’s Ruling Denying Joint Parties’ Motion to Amend Scoping Memo and Ruling for Track 5, and Modifying Track 5 Schedule of Activities* and November 7, 2023 *Email Ruling Granting in Part, and Denying in Part, the October 31, 2023 Motion Filed by the Center for Biological Diversity, Et Al.*, PearlX Infrastructure LLC (“PearlX”) submits the attached proposed Pro-Forma Standard Microgrid Multi Property Tariff in **Attachment A**. The November 7 Email Ruling modified the Stakeholder Pro-Forma Standard Microgrid Multi-Property Tariff filing date to December 15, 2023.

The IOU’s proposed multi-property microgrid tariffs are too restrictive and limited in scope. As a result, these tariffs will not support the deployment of viable microgrids in California, especially in multifamily housing settings where low- and middle-income Californians would most benefit from solar and storage included as part of a microgrid. Accordingly, PearlX offers a more flexible tariff that will allow microgrids to be deployed.

One of the most important attributes of a microgrid that is lacking in the draft MPMTs presented by the utilities is to operate full-time and not only during outages. Limiting the operation of a multi-property microgrid to only times when there is a utility outage minimizes the value of deploying distributed energy resources like solar and storage within the microgrid.

Developing a microgrid with the intent to only use it as a “back up plan” is not a sensible investment in valuable energy resources – and reduces the deployment of these important distributed energy resources across the State at a time where all resources are needed to meet the State’s climate goals.

Furthermore, during islanding periods, microgrid owners / operators should be compensated and should not be paying utility tariffs or fees. Multi-property microgrids are sustaining the reliability, not only of microgrid customers, but surrounding customers as well. Through the reliability provided by microgrids and the improvements inherent in developing the microgrid, utilities are benefiting from the microgrid as well. The development of multi-property microgrids allows utilities to defer or avoid capital improvement costs.

The other important features of the PearlX proposed tariff that is lacking in the utility tariffs are to allow 1) multi-property microgrids to participate in wholesale and retail markets, and 2) projects to be split across more than one tariff. These features make multi-property microgrids more attractive to financiers and developers, and will ensure that microgrids become a reality across the State. In addition, these elements will ensure that the use of microgrids is aligned to best benefit all stakeholders: customers, the grid, and multi-property microgrid owners and operators.

Ultimately, the Commission must move towards a form of microgrid metering to ensure the benefits of a microgrid are easier to measure. The more data gathered about the performance of individual microgrids, the better able the Commission and stakeholders will be to plan and deploy future microgrids to meet reliability needs.

Respectfully submitted,

December 15, 2023

/s/ \_\_\_\_\_

Vidhya Prabhakaran  
Anna Fero  
DAVIS WRIGHT TREMAINE LLP  
50 California Street, 23rd Floor  
San Francisco, CA 94111  
Tel. (415) 276-6500  
Fax. (415) 276-6599  
Email: vidhyaprabhakaran@dwt.com  
Email: annafero@dwt.com

Attorneys for PearlX Infrastructure LLC

## **Attachment A**

Proposed Pro-Forma Standard Microgrid Multi Property Tariff

## **MULTI-PROPERTY MICROGRID TARIFF**

**R.19-09-009**

PearlX Proposed Tariff

1. APPLICABILITY:

The Multi-Property Microgrid Tariff (MPMT) governs the eligibility, engineering studies, development and island and transitional operation of multi-property microgrids. This is available to applicants who meet the eligibility criteria in Section 2 and submit a complete application.

2. ELIGIBILITY:

An applicant must meet the following criteria:

- a. The project must meet the needs of at least two customers or two premises within the Microgrid Boundary. All customers within the Microgrid Boundary of the project must be [IOU] Distribution Customers. Provided that, where [IOU] determines in its sole discretion that inclusion of electrical loads or customers which do not take [IOU] retail distribution service in a Project will benefit [IOU] retail Distribution Customers, [IOU] may agree to the inclusion of such loads and/or customers and will submit a notice of and justification for this determination.
- b. Location: Project must be located in an area, wholly or in part, served by [IOU] distribution service.
- c. Multi-Property Microgrid Parameters: The Project must include interconnected Project Resources, including a Grid-Forming Project Resource. The project must act as a single, controllable entity. The project must be capable of maintaining electrical supply and service quality when isolated to connected customers during larger grid disturbances. Microgrid Applicants may engage third party developers and operators to develop the Microgrid. Project Resources may be interconnected to [IOU's] Distribution System pursuant to the Distribution Tariff, Interconnection Procedures, and/ or Rule 21 but Applicants may fund or furnish their own distribution infrastructure.

3. PERIOD:

The MPMT shall begin on the Effective Date and shall continue thereafter until the CPUC directs, approves, or makes effective a request by [IOU] that this tariff be closed. At the close of the MPMT, this Schedule will close to new Applications and no new MPMT MOAs will be offered. Applications submitted prior to the close will continue to be processed under this Schedule, unless otherwise directed by the CPUC. Any MOA executed under this Schedule will continue in effect pursuant to the terms of the agreement.

4. INTERCONNECTION:

Interconnection must be completed in line with Rule 21 and [IOU] interconnection procedures. The application must include an interconnection agreement for all Project Resources, and if an interconnection agreement is not yet executed, the latest interconnection study must be included.

5. MICROGRID ISLANDING STUDY:

- a. Once it has received an agreement with the Applicant to do so, [IOU] will conduct a Microgrid Islanding Study, requiring cooperation of the Applicant, to ensure the operational safety and stability of the Microgrid during Islanded Operations. This Microgrid Islanding Study will include a description of operations for the Microgrid Project that includes a logical architecture for the associated protection, controls, communications, cybersecurity, and other system components. One outcome of the Microgrid Islanding Study will be to produce a required Microgrid Special Facilities Agreement. Customer-owned equipment will be validated for interoperability.
- b. Applicant will have up to 30 days to review the Microgrid Islanding Study and sign the Microgrid Special Facilities Agreement. If, after review of the Microgrid Special Facilities Agreement, the Applicant declines to proceed with the Microgrid Project, the Applicant will notify [IOU] in writing within 5 calendar days and the Application will be deemed withdrawn.

6. DEVELOPMENT AND OPERATION:

The microgrid project will be governed by a project-specific MOA.

- a. Roles and Responsibilities
  - i. Distribution Provider: [IOU] as utility distribution owner and operator is responsible for Distribution Service under both Blue Sky and Island Modes.
  - ii. Distribution Service: [IOU] will provide Distribution Service for the customers and resources within the microgrid project during Blue Sky and Island Modes pursuant to all applicable rules on file with the CPUC.
  - iii. Microgrid Aggregator (Microgrid Aggregator). The entity that coordinates control of distributed resources, including Project Resources, consistent with relevant provisions of [IOU] rules (Electric Rule 2, Electric Rule 21, etc.), including frequency and voltage and other power quality requirements within [IOU] established control parameters to enable the Microgrid Project to operate in Island Mode.
- b. Microgrid Operating Agreement (MOA): MOA will govern the project development and operations. MOA is project specific to unique characteristics but will be consistent with applicable [IOU] rules, processes, and protocol for the operation of the microgrid in Blue Sky mode. MOA will be executed within 90 days of the Interconnection Agreement.
- c. System change will require a re-study of the microgrid.
- d. In the event the Microgrid Project operates outside of parameters defined in the underlying Interconnection Agreements or the MOA, [IOU] may suspend Microgrid Project operation, change the Microgrid Islanding Point, or other Distribution System changes required to meet its service obligations pursuant to all applicable rules on file with the CPUC. If no breach of underlying Interconnection Agreement or MOA, the Microgrid Aggregator and [IOU] can mutually agree on changes to the Microgrid Project operations.

7. SERVICES AND FEES:

Applicant is responsible for all study fees and interconnection distribution service updates. These fees and upgrades may be eligible for credits to offset applicable costs to the applicant.

8. TARIFFS, PROGRAMS AND SERVICE AGREEMENTS:

- a. Tariffs during Blue Sky Modes: Billing will continue under applicable tariff provisions and rules. Project Resources are eligible to provide distribution services and/or participate in demand side management programs during Blue Sky Mode consistent with applicable tariffs and programs.
  - i. Microgrid projects may participate in applicable IOU tariffs or programs, or a combination of these tariffs based on individual project characteristics.
- b. Tariffs during Islanding Mode: No charges will be levied when [IOU] is not providing any or full service while the microgrid is in Islanding Mode. Microgrid Aggregator will be eligible to receive bill credits when the microgrid is in Islanding Mode. Microgrid Aggregator is not limited to participating in [IOU] tariffs during Island Mode and may use energy developed during Islanding to participate in wholesale/retail markets.
- c. Service Agreements: An existing power purchase agreement or other contract for energy, capacity, or distribution services to [IOU], or any other counterparty, is prohibited for a Microgrid Project, if such power purchase agreement or other contract impedes the ability to enable Island Mode.
- d. The microgrid project can be composed of different equipment and configurations, that are eligible under the relevant OAT and interconnection type.

9. CAISO MARKET PARTICIPATION:

Project Resources may be eligible to, but are not required to, participate in the CAISO markets consistent with applicable tariffs and the governing Interconnection Agreement for each Generating Facility during Blue Sky Mode. During Island Mode, the settlement of energy transaction associated with the Project Resources will continue to occur according to applicable CAISO tariff provisions and rules.

10. DEFINITIONS

- a. **Blue Sky Mode.** The normal mode of operation when the Microgrid is Interconnected to and operating in parallel with the Distribution System, is not operating in Island Mode, and the IOU maintains operational coordination of the delivery of electric service.
- b. **Distribution Customer.** An end-use customer taking Distribution Service.
- c. **Distribution Provider.** [IOU] which owns, controls, and operates facilities used to provide Distribution Service to the customers within the Microgrid Boundary under this Microgrid Project.
- d. **Distribution Service.** The transporting of electric power over and through various [IOU] facilities owned by the Distribution Provider for delivery to a Distribution Customer. The Distribution service provided under this Microgrid Project is the distribution of capacity and energy from the points of receipt to the points of delivery to a Distribution Customer.
- e. **Distribution System.** [IOU] distribution system broadly consists of the stepdown substations, the primary distribution circuits, and the secondary distribution system.



The secondary distribution system consists of the line transformers that step the primary voltage down to a secondary voltage, and the secondary conductors including service drops and Distribution Provisions of this Microgrid Project apply to service on this.

- f. **Effective Date.** The date upon which: (1) any CPUC disposition, resolution, or other order makes this Schedule effective; or (2) if an effective date of the Schedule is not so specified, the date of any CPUC disposition, resolution, or other order that approves this Schedule unconditionally.
- g. **Generating Facility.** All generators, electrical wires, equipment, and other facilities, excluding Interconnection Facilities, owned or provided by producer for the purpose of producing electric power, including storage.
- h. **Grid-Forming Project Resource(s).** A Project Resource that, among other features, has the ability to (i) black start the Microgrid Project when in Island Mode and deenergized, and (i) provide voltage and frequency stability and control within a range acceptable to [IOU] during Island Mode operation.
- i. **Interconnection Agreement.** The agreement and associated documents or any successor agreement and associated documentation governing the terms and conditions of the interconnection of the Project Resource(s) with the grid, including any description of the plan for interconnecting the Project Resource(s) to the grid.
- j. **Interconnection Study.** A study to establish the requirements for Interconnection of a Generating Facility with Distribution Provider's Distribution System or Transmission System, pursuant to [IOU] tariffs and rules.
- k. **Island Mode.** Operation of the Microgrid by the Distribution Provider when a Microgrid that normally operates in Blue Sky Mode (parallel mode) is disconnected from the Distribution System at the Microgrid Islanding Point.
- l. **Microgrid.** An interconnected system of loads and energy resources, including, but not limited to, distributed energy resources, energy storage, demand response tools, or other management, forecasting, and analytical tools, appropriately sized to meet customer needs, within a clearly defined Microgrid Boundary that can act as a single, controllable entity, and can connect to, disconnect from, or run in parallel (Blue Sky Mode) with, larger portions of the electrical grid, or can be managed and isolated to withstand larger disturbances and maintain electrical supply to connected critical infrastructure.
- m. **Microgrid Aggregator.** As defined in Section 6, above.
- n. **Microgrid Applicant.** The person or entity who submits an Application for a Microgrid Project to an IOU to apply to participate on this Schedule.
- o. **Microgrid Boundary.** An electrically contiguous area beyond a Microgrid Islanding Point on the Distribution System that defines a microgrid as a single controllable entity.
- p. **Microgrid Balance of System.** All of the tangible and intangible assets, facilities, and equipment owned or controlled by the Microgrid Aggregator, other than the Project Resources necessary to meet the requirements of the Microgrid Project as determined in the Microgrid Islanding Study.
- q. **Microgrid Customer.** A customer receiving IOU Distribution Service within the Project Microgrid Boundary.

- r. **Microgrid Islanding Points.** The points (e.g., line recloser) on the Distribution System that allows the microgrid to separate from and reconnect to the rest of the Distribution System.
- s. **Microgrid Islanding Study.** An engineering study conducted by the Distribution Provider or its agents of the microgrid operation in an Island Mode and operating mode transitions. The study shall determine the required modifications to the Distribution Provider's distribution facilities and associated cost required to support Island Mode operation and microgrid transitions while maintaining voltage, frequency and power quality.
- t. **Microgrid Operating Agreement (MOA).** As defined in Section 6.
- u. **Microgrid Project.** Tangible and intangible assets, facilities and equipment needed to create and operate a Multi-Property Microgrid, including the Project Resources, Microgrid Special Facilities, Project Balance of System, contract rights, easements, rights of way, licenses and other interests or rights in real estate reasonably necessary for the construction, operation, and maintenance of the Microgrid.
- v. **Microgrid Special Facilities.** Modifications to the Distribution Provider's distribution facilities required to operationalize the Microgrid Boundary and Island Mode such that the Microgrid is capable of maintaining voltage, frequency and power quality within the Distribution Provider's control parameters. This shall include all Microgrid Project tangible and intangible assets, facilities, and equipment owned or controlled by [IOU] that are necessary to meet the requirements of the Microgrid Project as identified in the Microgrid Islanding Study.
- w. **Microgrid Special Facilities Agreement (Microgrid SFA).** The agreement that describes the upgrades on the Distribution System, and at the project site to be installed under the terms and conditions regarding Special Facilities (or added facilities) on file with the Commission, and incorporated in the MOA.
- x. **Non-Project Resource(s).** Electric generation, storage technology, and/or demand management technology within the Microgrid Boundary that are not Project Resources.
- y. **Project Resource(s).** Electric generation, storage technology, and/or load management technology that the Microgrid Aggregator has control over, consistent with relevant provisions in this Agreement to enable the Microgrid Project to safely and reliably operate in Island Mode. The Microgrid Aggregator must have at least one Grid-Forming Project Resource that has a resource controller and has grid-forming capability sufficient to allow acceptable frequency and voltage during Island Mode operation. Project Resources must comply with the emissions standards adopted by the State Air Resources Board pursuant to the distributed generation certification program requirements of Section 94203 of Title 17 of the California Code of Regulations, or any successor regulation, and must be interconnected to the Distribution System within the Microgrid Boundary pursuant to applicable rules and tariffs.
- z. **Scheduled Island Mode Operation.** A Microgrid operating in Island Mode that is scheduled and coordinated between the Microgrid Aggregator and [IOU].
- aa. **System Change.** Any change in Project Resources, Non-Boundary, or customer loads within the Microgrid Boundary, or other affected systems outside the Microgrid Boundary that has a material impact on the ability of a Microgrid Project to function in Island Mode.