PACIFICORP

Community Solar Project Interconnection

Community Solar Project Facilities Study Report

Completed for
("Applicant")
OCS089

Proposed Point of Interconnection
Circuit 5P478 out of Columbia Substation

July 15, 2024

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1.0 DESCRIPTION OF THE PROJECT

Prologis Energy LLC ("Applicant") proposed interconnecting 1.8 MW of new generation to PacifiCorp's ("Public Utility") circuit 5P478 out of Columbia substation located in Multnomah County, Oregon. The Meadows Solar project ("Project") will consist of eighteen (18) Solis 100-K-5G-US 100 kw inverters for a total requested output of 1.8 MW. The requested commercial operation date is December 1, 2024.

The Public Utility has assigned the Project "OCS089."

2.0 APPROVAL CRITERIA FOR TIER 4 INTERCONNECTION REVIEW

Pursuant to Public Utility Commission of Oregon Order 19-392 approved Community Solar Project procedures, a Public Utility must use the Tier 4 review procedures for an application to interconnect a Community Solar Project that meets the following requirements:

(a) The Community Solar Project does not qualify for or failed to meet Tier 2 interconnection review requirements; and
(b) The Community Solar Project must have a nameplate capacity of three (3) megawatts or less.

3.0 SCOPE OF THE STUDY

Pursuant to Public Utility Commission of Oregon Order 19-392 approved Community Solar Project procedures the Facilities Study Report shall consist of:

(a) A detailed scope identifying the interconnection facilities and system upgrades required to safely interconnect the Community Solar Project including the electrical switching configuration of the equipment, including the transformer, switchgear, meters, and other station equipment as applicable;
(b) A good-faith, non-binding estimate of the costs for the facilities and upgrades, including equipment, engineering, procurement, and construction costs, and;
(c) A detailed estimate of the time required to procure, construct, and install the required interconnection facilities and system upgrades.

The information contained in this study report is based on preliminary information and not to be used for construction.

4.0 PROPOSED POINT OF INTERCONNECTION

The Applicant's proposed Community Solar Project is to be interconnected to the Public Utility's distribution circuit 5P478 out of Columbia substation via a 12.5 kV primary meter. The proposed Point of Interconnection will be located at approximately facility point 01101001.0104880 located in Multnomah County, Oregon. Figure 1 below is a one-line diagram that illustrates the interconnection of the proposed generating facility to the Public Utility's system.

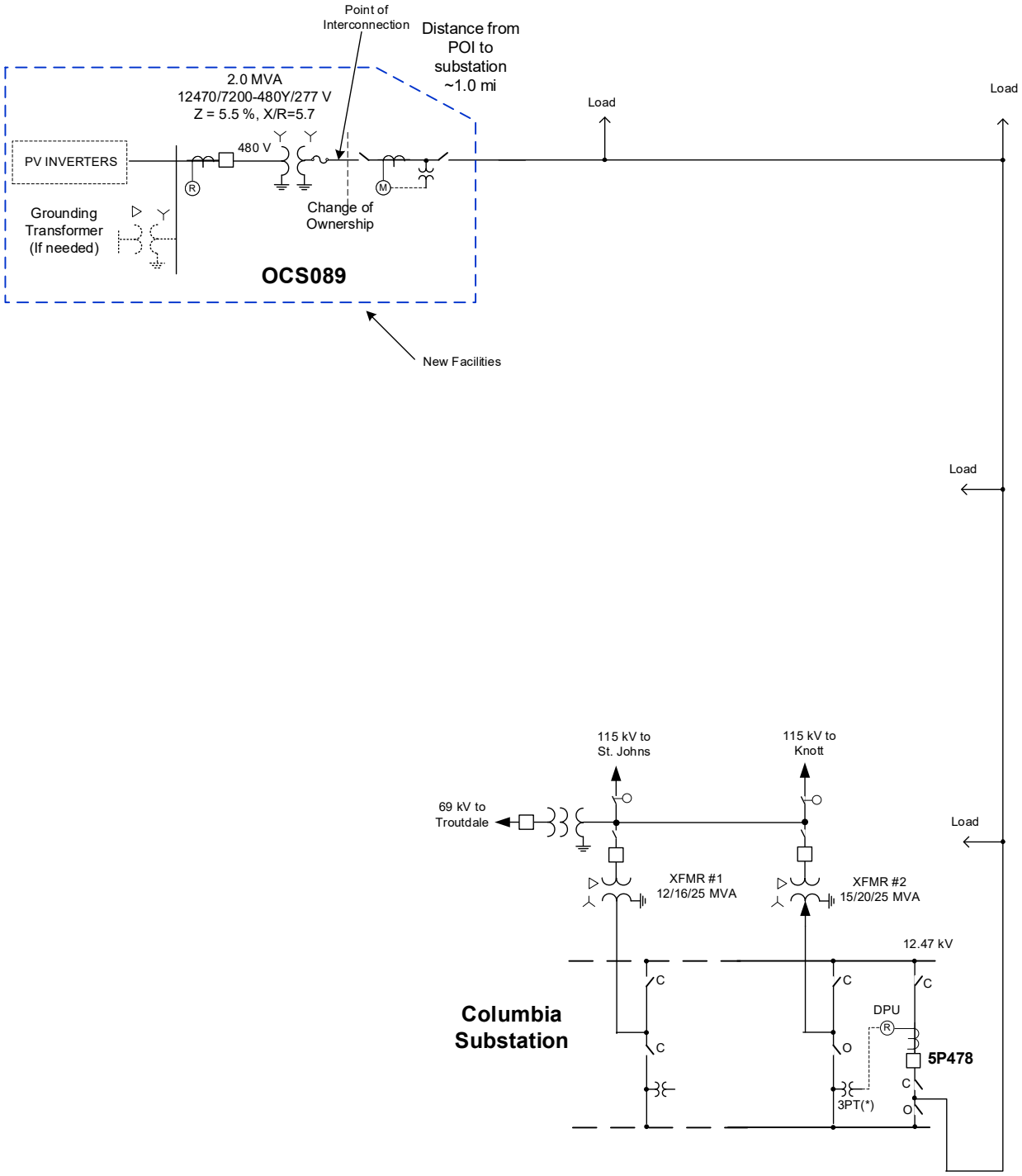

Figure 1: System One Line Diagram

5.0 STUDY ASSUMPTIONS

- All active higher priority transmission service and/or generator interconnection and Community Solar Project requests will be considered in this study and are listed in Appendix

1. If any of these requests are withdrawn, the Public Utility reserves the right to restudy this request, as the results and conclusions contained within this study could significantly change.

- For study purposes there are two separate queues:
  - Transmission Service Queue: to the extent practical, all System Upgrades that are required to accommodate active transmission service requests will be modeled in this study.
  - Generation Interconnection Queue and Community Solar Queue: all relevant higher queue interconnection requests will be modeled in this study.
- The Applicant's request for interconnection service in and of itself does not convey any other form or service.
- This study assumes the Project will be integrated into Public Utility's system at the agreed upon and/or proposed Point of Interconnection.
- The Applicant will construct and own the facilities required between the Point of Interconnection and the Project unless specifically identified by the Public Utility.
- Line reconductor or fiber underbuild required on existing poles will be assumed to follow the most direct path on the Public Utility's system. If during detailed design the path must be modified it may result in additional cost and timing delays for the Applicant's Project.
- Generator tripping may be required for certain outages.
- All facilities will meet or exceed the minimum Western Electricity Coordinating Council ("WECC"), North American Electric Reliability Corporation ("NERC"), and Public Utility performance and design standards.
- This report is based on information available at the time of the study. It is the Applicant's responsibility to check the Public Utility's web site regularly for transmission system updates (https://www.oasis.oati.com/ppw)

6.0 REQUIREMENTS

6.1 COMMUNITY SOLAR PROJECT MODIFICATIONS

The following outlines the design, procurement, construction, installation, and ownership of equipment at the Applicant's Community Solar Project.

6.1.1 APPLICANT TO BE RESPONSIBLE FOR

- Design, construct, own and maintain the Applicant's generating facility and associated collector system.
- Operate the Community Solar Project under constant power factor mode with a unity power factor setting unless specifically requested otherwise by the Public Utility. The Community Solar Project is expressly forbidden from actively participating in voltage regulation of the Public Utilities system without written request or authorization from the Public Utility. The Community Solar Project shall have sufficient reactive capacity to enable the delivery of 100 percent of the plant output to the POI at unity power factor measured at 1.0 per unit voltage under steady state conditions.
- Equip the Community Solar Project generators capable of operating under voltage reactive power mode, active power reactive power mode, and constant reactive power mode as per IEEE standard 1547-2018. This project shall be capable of activating each of these modes one at a time. The Public Utility

reserves the right to specify any mode and settings within the limits of IEEE standard 1547-2018 needed before or after the Community Solar Project enters service. The Applicant shall be responsible for implementing settings modifications and mode selections as requested by the Public Utility within an acceptable timeframe.

- Operate the Community Solar Project under constant power factor mode with a unity power factor setting unless specifically requested otherwise by the Public Utility. The Community Solar Project is expressly forbidden from actively participating in voltage regulation of the Public Utility's system without written request or authorization from the Public Utility.
- Operate the Community Solar Project so minimum power quality requirements in PacifiCorp's Engineering Handbook section 1C are met, the standards are available at https://www.pacificpower.net/about/power-quality-standards.html. Requirements specified in the System Impact Study that exceed requirements in the Engineering Handbook section 1C power quality standards shall apply.
- As per NERC standard VAR-001-1, the Public Utility is required to specify voltage or reactive power schedule at the Point of interconnection. Under normal conditions, the Public Utility's system should not supply reactive power to the Community Solar Project.
- Install a transformer that will hold the phase to neutral voltages within limits when the Community Solar Project is isolated with the Public Utility's local system until the generation disconnects.
- Design, procure, install, and own a 12.0 kV recloser containing a Schweitzer Engineering Laboratories ("SEL") 651R relay/controller (or equivalent) to perform the following functions:
    - Detect faults on the 12.5 kV equipment at the Community Solar Project
    - Detect faults on the 12.5 kV line to Columbia substation
    - Monitor the voltage and react to under or over frequency, and /or magnitude of the voltage
    - Monitor the current through the grounding transformer to protect the transformer from unbalance current conditions on the 12.5 kV system that are not resolved in a timely manner
- Procure and install voltage instrument transformers on the Public Utility side of the recloser.
- Provide the Public Utility Level 2 password control of the recloser relay.
- Provide the Public Utility a copy of the Applicant's recloser relay settings for review.
- Provide the Public Utility a completed Oregon Public Utility Commission Form 6 prior to the need for the Public Utility to perform any witness testing.
- Terminate the control cable running from the Public Utility's radio system to the recloser relay.

- Construct the Applicant's step-up transformer enclosure cabinet at the Point of Change of Ownership to Public Utility's standard to ensure the last span of the Public Utility's underground line extension can be appropriately terminated.
- Provide any construction or backup retail service necessary for the Project.
- Arrange for and provide permanent retail service for power that will flow from the Public Utility's system when the Project is not generating. Applicant shall coordinate with the Public Utility's customer service group establish a request number and account number.
- Provide the Public Utility a Professional Engineer ("PE") stamped maintenance plan for all Applicant facilities.

6.1.2 PUBLIC UTILITY TO BE RESPONSIBLE FOR

- Coordinate with the Applicant to establish request and account numbers.
- Observe and provide acceptance of Public Utility system related relay settings in the Applicant recloser relay.
- Terminate the final span of conductor into the Applicants step-up transformer enclosure.

6.2 POINT OF INTERCONNECTION

The following outlines the design, procurement, construction, installation, and ownership of equipment at the Point of Interconnection.

6.2.1 APPLICANT TO BE RESPONSIBLE FOR

- Provide the Public Utility any necessary easements for the Public Utility's line extension between its existing facilities and the Point of Change of Ownership.
- Procure and install a padvault primary metering cabinet that meets the Public Utility's standards near the Applicant's step-up transformer enclosure cabinet.
- Procure and install Public Utility standard conduit and three-phase AL primary conductor between the Applicant's step-up transformer enclosure, the primary metering cabinet enclosure and the Public Utility's existing padvault transformer at facility point 104880. The Public Utility will terminate the conductor in its existing transformer enclosure and the Applicant's step-up transformer cabinet.
- Coordinate with the Public Utility to ensure Public Utility access to the new interconnection facilities.

6.2.2 PUBLIC UTILITY TO BE RESPONSIBLE FOR

- Provide the Applicant the Public Utility's standards for all equipment that the Applicant will procure and install but will be owned by the Public Utility. Coordinate on the location of the equipment.
- Terminate the conductor to be installed by the Applicant up to the Public Utility's existing transformer enclosure and the Applicant's step-up transformer cabinet.

- Design, procure and install 12.5 kV revenue metering equipment in the primary metering cabinet installed by the Applicant, including a revenue quality meter and instrument transformers.
- Provide and install a cellular connection for retail sales and generation accounting via the MV-90 translation system.

6.3 OTHER

The following outlines the design, procurement, construction, installation, and ownership of equipment past the Point of Interconnection.

6.3.1 PUBLIC UTILITY TO BE RESPONSIBLE FOR

- Columbia Substation
  - Install one instrument transformer on the line side of circuit breaker 5P478 to support deadline checking.
  - If necessary, perform a CDEGS grounding analysis.

7.0 COST ESTIMATE

The following estimate represents only scopes of work that will be performed by the Public Utility. Costs for any work being performed by the Applicant are not included.

Distribution System *Interconnection extension*	$73,000
Metering *Engineering, metering equipment*	$26,000
Protection and Control *Engineering, technician, settings development*	$45,000
Project Management *Project manager, control specialist*	$17,000
Substation *Instrument transformer installation, dead line check*	$60,000
Other *Capital surcharge, contingency, administrative support*	$51,000
Total	**$271,000**

*Any distribution line modifications identified in this report will require a field visit analysis in order to obtain a more thorough understanding of the specific requirements. The estimate provided above for this work could change substantially based on the results of this analysis. Until this field

analysis is performed the Public Utility must develop the project schedule using conservative assumptions. The Applicant may request that the Public Utility perform this field analysis, at the Applicant's expense, prior to the execution of an Interconnection Agreement in order to obtain more cost and schedule certainty.

Note: Costs for any excavation, duct installation and easements shall be borne by the Applicant and are not included in this estimate. This estimate approximates the costs incurred by the Public Utility to interconnect this Community Solar Project to the Public Utility's electrical distribution or transmission system based upon the level of study completed to-date. The Applicant will be responsible for all actual costs, regardless of the estimated costs communicated to or approved by the Applicant.

8.0 SCHEDULE

Execute Interconnection Agreement	September 20, 2024
Provision of First Progress Payment	October 25, 2024
Applicant and Public Utility Establish Retail Service Request	December 2, 2024
*Applicant Initial Design Package Provided	January 10, 2025
Public Utility Engineering & Procurement Commences	March 3, 2025
Applicant Property/Permits/ROW Procured	September 5, 2025
*Applicant Final Design Package Provided	November 14, 2025
Public Utility Property/Permits/ROW Procured	December 15, 2025
Public Utility Engineering Design Complete	February 20, 2026
Public Utility Construction Begins	March 16, 2026
Applicant Maintenance and Commissioning Plans Provided	April 15, 2026
Applicant and Public Utility Construction Complete	February 7, 2026
Public Utility Commissioning Activities Complete	June 12, 2026
Public Utility Commissioning Document Review Complete	June 19, 2026
Applicant's Facilities Receive Backfeed Power	June 22, 2026
Initial Synchronization/Generation Testing	June 23, 2026

Commercial Operation	June 24, 2026

*Applicant initial design package shall include final generating facility location, inverter/turbine selection, basic protection package, tie line route and collector system locations and data as applicable. Applicant final design package shall include PE stamped issued for construction ("IFC") drawings for generating facility, collector substation, tie line as well as an updated PSS/e model and updated WECC approved model, electromagnetic transient ("EMT") model and a detailed short circuit model of its generation system using the ASPEN OneLine short circuit simulation program as applicable. The WECC model parameters must be adjusted to reflect the plant's actual anticipated performance. The plant controller must be included in the model. If there is to be coordination between facilities or a master VAR controller, this must be included in the detailed WECC dynamic model, as well as in the PSS/e user-written model.

Please note, the time required to perform the scope of work identified in this report does not support the Applicant's requested commercial operation date of December 1, 2024.

9.0 PARTICIPATION BY AFFECTED SYSTEMS

Public Utility has identified the following Affected Systems: None

10.0 APPENDICES

Appendix 1: Higher Priority Requests
Appendix 2: Property Requirements

10.1 APPENDIX A: HIGHER PRIORITY REQUESTS

All active higher priority transmission service and/or generator interconnection requests will be considered in this study and are identified below. If any of these requests are withdrawn, the Public Utility reserves the right to restudy this request, as the results and conclusions contained within this study could significantly change.

Transmission/Generation Interconnection/Community Solar Queue Requests considered:

OCS012 – 0.996 MW
OCS080 - 0.360 MW

10.2 APPENDIX B: PROPERTY REQUIREMENTS

Requirements for rights of way easements
Rights of way easements will be acquired by the Applicant in the Public Utility's name for the construction, reconstruction, operation, maintenance, repair, replacement and removal of Public Utility's Interconnection Facilities that will be owned and operated by PacifiCorp. Applicant will acquire all necessary permits for the project and will obtain rights of way easements for the project on Public Utility's easement form.

Real Property Requirements for Point of Interconnection Substation
Real property for a point of interconnection substation will be acquired by an Applicant to accommodate the Applicant's project. The real property must be acceptable to Public Utility. Applicant will acquire fee ownership for interconnection substation unless Public Utility determines that other than fee ownership is acceptable; however, the form and instrument of such rights will be at Public Utility's sole discretion. Any land rights that Applicant is planning to retain as part of a fee property conveyance will be identified in advance to Public Utility and are subject to the Public Utility's approval.

The Applicant must obtain all permits required by all relevant jurisdictions for the planned use including but not limited to conditional use permits, Certificates of Public Convenience and Necessity, California Environmental Quality Act, as well as all construction permits for the project.

Applicant will not be reimbursed through network upgrades for more than the market value of the property.

As a minimum, real property must be environmentally, physically, and operationally acceptable to Public Utility. The real property shall be a permitted or able to be permitted use in all zoning districts. The Applicant shall provide Public Utility with a title report and shall transfer property without any material defects of title or other encumbrances that are not acceptable to Public Utility. Property lines shall be surveyed and show all encumbrances, encroachments, and roads.

Examples of potentially unacceptable environmental, physical, or operational conditions could include but are not limited to:

- Environmental: known contamination of site; evidence of environmental contamination by any dangerous, hazardous or toxic materials as defined by any governmental agency; violation of building, health, safety, environmental, fire, land use, zoning or other such regulation; violation of ordinances or statutes of any governmental entities having jurisdiction over the property; underground or above ground storage tanks in area; known remediation sites on property; ongoing mitigation activities or monitoring activities; asbestos; lead-based paint, etc. A phase I environmental study is required for land being acquired in fee by the Public Utility unless waived by Public Utility.

- Physical: inadequate site drainage; proximity to flood zone; erosion issues; wetland overlays; threatened and endangered species; archeological or culturally sensitive areas; inadequate sub-surface elements, etc. Public Utility may require Applicant to procure various studies and surveys as determined necessary by Public Utility.

- Operational: inadequate access for Public Utility's equipment and vehicles; existing structures on land that require removal prior to building of substation; ongoing maintenance for landscaping or extensive landscape requirements; ongoing homeowner's or other requirements or restrictions (e.g., Covenants, Codes and Restrictions, deed restrictions, etc.) on property which are not acceptable to the Public Utility.