

# Large Generator Interconnection Facilities Study Report

## **FINAL**

Completed for

("Interconnection Customer") TCS-09

Proposed Point of Interconnection

Camp Williams-Mona #1 345 kV transmission line

**February 17, 2023** 



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#### 1.0 DESCRIPTION OF THE PROJECT

The Interconnection Customer has proposed to interconnect 300 MW of new generation to the Transmission Provider's Camp Williams-Mona #1 345 kV transmission line located in Utah County, Utah. The Interconnection Request is proposed to consist of eighty-six (86) 4,200 KVA SMA SC4200-UP-US solar inverters for a total output of 300 MW at the Point of Interconnection. The Interconnection Request also consists of 150 MW of DC coupled battery storage. The requested commercial operation date is November 30, 2023.

Interconnection Customer will <u>NOT</u> operate this generator as a Qualified Facility as defined by the Public Utility Regulatory Policies Act of 1978 (PURPA).

The Transmission Provider has assigned the Project "TCS-09."

#### 2.0 STUDY SCOPE AND OBJECTIVES

The objective of the facilities study is to:

- complete a facilities analysis, which shall specify and estimate the cost of equipment, engineering, procurement, and construction required to address issues as outlined in the system impact study, and
- provide a scope of work and an estimated cost and schedule for completing the scope of work.

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

#### 3.0 STUDY ASSUMPTIONS

- All active higher priority transmission service and/or generator interconnection requests will be considered in this study and are listed in Appendix 1. If any of these requests are withdrawn, the Transmission Provider reserves the right to restudy this request, as the results and conclusions contained within this study could significantly change.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 network upgrades that are required to accommodate active transmission service requests will be modeled in this study.
  - Generation Interconnection Queue: Interconnection Facilities associated with higher queue interconnection requests will be modeled in this study.
- The Interconnection Customer's request for energy or network resource interconnection service in and of itself does not convey transmission service. Only a Network Customer may make a request to designate a generating resource as a Network Resource. Because the queue of higher priority transmission service requests may be different when a Network Customer requests network resource designation for this Generating Facility, the available capacity or transmission modifications, if any, necessary to provide network resource interconnection service may be significantly different. Therefore, the Interconnection Customer should regard the results of this study as informational rather than final.



- This study assumes the Project will be integrated into Transmission Provider's system at the agreed upon and/or proposed point of interconnection.
- The Interconnection Customer will construct and own any facilities required between the Point of Interconnection and the Project.
- Line reconductor or fiber underbuild required on existing poles will be assumed to follow the most direct path on the Transmission Provider's system. If during detailed design the path must be modified it may result in additional cost and timing delays for the Interconnection Customer'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 Transmission Provider performance and design standards.
- The Transmission Provider assumes it will be required to meter DC coupled solar and battery storage separately. This will result in a significant amount of Interconnection Facilities to be installed within the Interconnection Customer's facility. It may also result in significant, annual maintenance costs for Interconnection Customers. Please note that the Transmission Provider does not currently have an approved meter capable of this function therefore cost estimates and schedules are preliminary at this time. The Transmission Provider assumes it will not be able to support a Commercial Operation Date prior to Q4 2024 however, that could be pushed out even further pending industry standards being developed for this technology.
- This report is based on information available at the time of the study. It is the Interconnection Customer's responsibility to check the Transmission Provider's web site regularly for Transmission system updates at (<a href="https://www.oasis.oati.com/ppw">https://www.oasis.oati.com/ppw</a>)

#### 4.0 Type of Interconnection Service

The Interconnection Customer has selected Energy Resource Interconnection Service (ERIS).

#### 5.0 Proposed Point of Interconnection

The Interconnection Customer's proposed Generating Facility is to be interconnected to the Transmission Provider's Camp Williams-Mona 345 kV transmission line via a new Point of Interconnection substation. The Interconnection Customer has requested that the Transmission Provider construct its new substation at approximately latitude 40.040, longitude -111.988. Figure 1 below, is a one-line diagram that illustrates the interconnection of the proposed Generating Facility to the Transmission Provider's system.



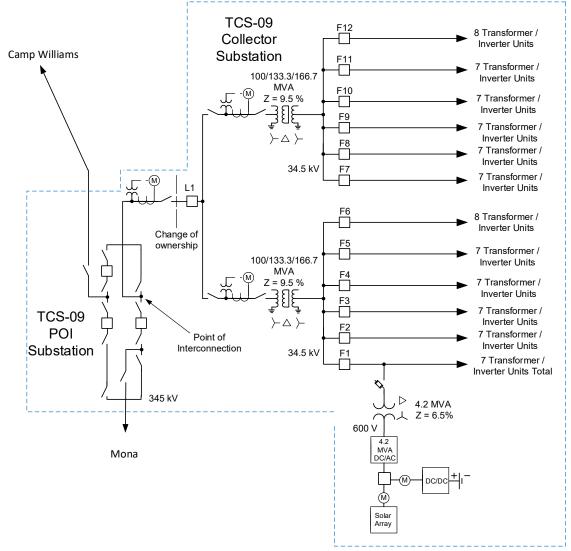


Figure 1: System One Line Diagram

#### 6.0 SCOPE OF WORK

#### **6.1** Generating Facility Requirements

The following outlines the design, procurement, construction, installation, and ownership of equipment at the Interconnection Customer's Generation Facility.

#### 6.1.1 Interconnection Customer to be Responsible For

- Procure all necessary permits, lands, rights of way and easements required for the construction and continued maintenance of the Interconnection Customer's Generating Facility and collector substation.
- Design, procure, construct, own and maintain the Interconnection Customer's Generating Facility and associated collector substation.



- Design the Generating Facility with reactive power capabilities necessary to operate within the full power factor range of 0.95 leading to 0.95 lagging as measured at the high side of the Interconnection Customer's GSU transformer. This power factor range shall be dynamic and can be met using a combination of the inherent dynamic reactive power capability of the generator or inverter, dynamic reactive power devices and static reactive power devices to make up for losses.
- Design the generating facility such that it can provide positive reactive support (i.e., supply reactive power to the system) immediately following the removal of a fault or other transient low voltage perturbations or install dynamic voltage support equipment. These additional dynamic reactive devices shall have correct protection settings such that the devices will remain on line and active during and immediately following a fault event.
- Operate the Generating Facility to the voltage set point to be provided by the Transmission Provider.
- Equip the Generating Facility with automatic voltage-control equipment and operate with the voltage regulation control mode enabled unless explicitly authorized to operate another control mode by the Transmission Provider.
- Install, maintain and operate a functioning governor or equivalent controls to ensure primary frequency capability as required under FERC Order 842.
- Install a Phasor Measurement Unit to collect data from the Project. The data must be collected, held for a minimum of 90 days and be able to stream to the Planning Coordinator for each of the Generator Facility's step-up transformers measured on the low side of the GSU at a sample rate of at least 60 samples per second and synchronized within +/- 2 milliseconds of the Coordinated Universal Time (UTC). Initially, the following data must be collected:
  - o Three phase voltage and voltage angle (analog)
  - o Three phase current (analog)

Data requirements are subject to change as deemed necessary to comply with local and federal regulations.

- Operate the Generating Facility so as to maintain the voltage at the Point of Interconnection, or other designated point as deemed appropriate by Transmission Provider, at a voltage schedule to be provided by the Transmission Provider following testing. Voltage will typically be required to operate between 1.00 and 1.04 per unit.
- Operate the Generating Facility with a voltage droop.
- Have any Transmission Provider required studies, such as a voltage coordination study, performed and provide results to Transmission Provider. Any additional requirements identified in these studies will be the responsibility of the Interconnection Customer.





- Meet the Federal Energy Regulatory Commission (FERC) and WECC low voltage ride-through requirements as specified in the interconnection agreement.
- Provide test results to the Transmission Provider verifying that the inverters for this Project have been programmed to meet all PRC-024 requirements rather than manufacturer IEEE distribution standards.
- Provide the Transmission Provider the manufacturer Electromagnetic Transient Modeling ("EMT") model a minimum of 180 days prior to Commercial Operation.
- Provide the Transmission Provider a standard model from the WECC Approved Dynamic Model Library.
- Design the Generating Facility control system such that it can receive an analog output from the Transmission Provider for setpoint control and provide an analog input back to the Transmission Provider on the status of the setpoint.
- Provide and install two sets of current transformers to be fed into the
  bus differential relays with a maximum current transformer ratio
  matching the maximum CT ratio of the breakers at the POI substation.
  Provide and install conduit and cabling to the POI substation
  marshalling cabinet with these outputs.
- Provide a separate graded, grounded and fenced area along the
  perimeter of the Interconnection Customer's collector substation for
  the Transmission Provider to install a control building. The control
  building will share a fence and ground grid with the Interconnection
  Customer collector substation and have separate, unencumbered access
  for the Transmission Provider. Fencing, gates and road access shall
  meet Transmission Provider standards. The Interconnection Customer
  shall provide a Transmission Provider approved easement for the
  control building site.
- Perform a CDEGS grounding analysis for the Transmission Provider control building site and provide the results to the Transmission Provider.
- Provide permanent AC power to the Transmission Provider's control building.
- Design, procure and install conduit and control cabling and hard wire the Interconnection Customer's source devices to Transmission Provider's marshalling cabinet. Replicated values are not acceptable.
- Provide the following points which are based on the Interconnection Customer's most recent design information. Please note that this list of points could change if the Interconnection Customer's final design changes:

#### Analog Written to the RTU:

o Max Gen Limit MW Set Point

#### Analogs:

Max Gen Limit MW Set Point Feed Back





- Potential Power MW
- Average Horizontal Irradiance (GHI)
- Average Plant Atmospheric Pressure (Bar)  $\bigcirc$
- Average Plant Temperature (Celsius)  $\bigcirc$
- 345 34.5 kV transformer #1 MW 0
- 345 34.5 kV transformer #1 MVAR
- 345 34.5 kV transformer #2 MW
- 345 34.5 kV transformer #2 MVAR  $\bigcirc$
- 34.5 kV Collector circuit #1 MW
- 34.5 kV Collector circuit #1 MVAR
- 34.5 kV Collector circuit #2 MW
- 34.5 kV Collector circuit #2 MVAR 0
- 34.5 kV Collector circuit #3 MW
- 34.5 kV Collector circuit #3 MVAR
- 34.5 kV Collector circuit #4 MW
- 34.5 kV Collector circuit #4 MVAR
- 34.5 kV Collector circuit #5 MW
- 34.5 kV Collector circuit #5 MVAR 0
- 34.5 kV Collector circuit #6 MW
- 34.5 kV Collector circuit #6 MVAR
- 34.5 kV Collector circuit #7 MW  $\bigcirc$
- 34.5 kV Collector circuit #7 MVAR
- 34.5 kV Collector circuit #8 MW 0
- 34.5 kV Collector circuit #8 MVAR
- 34.5 kV Collector circuit #9 MW
- 34.5 kV Collector circuit #9 MVAR
- 34.5 kV Collector circuit #10 MW
- 34.5 kV Collector circuit #10 MVAR
- 34.5 kV Collector circuit #11 MW
- 34.5 kV Collector circuit #11 MVAR
- 34.5 kV Collector circuit #12 MW
- 34.5 kV Collector circuit #12 MVAR

#### Status:

 $\bigcirc$ 

- 345 kV transformer breaker L1 0
- 34.5 kV collector line breaker F1
- 34.5 kV collector line breaker F2  $\bigcirc$
- 34.5 kV collector line breaker F3
- 34.5 kV collector line breaker F4
- 34.5 kV collector line breaker F5  $\bigcirc$
- 34.5 kV collector line breaker F6 0 34.5 kV collector line breaker F7
- 34.5 kV collector line breaker F8
- 34.5 kV collector line breaker F9 34.5 kV collector line breaker F10
- 34.5 kV collector line breaker F11
- 34.5 kV collector line breaker F12

- Provide and install conductor, shield wire and line hardware in sufficient quantities to allow the Transmission Provider to terminate the segment running from the collector substation deadend structure into the POI substation deadend structure. The last segment will be owned by the Transmission Provider.
- Procure and install Transmission Provider approved H-Frame structures for the Transmission Provider's instrument transformers. The installation locations shall be coordinated with the Transmission Provider.
- Install complete conduit and control cable provided by the Transmission Provider from each of the Transmission Provider's instrument transformers to the Transmission Provider's collector substation control building. Leave sufficient quantities of control cable to allow the Transmission Provider to terminate the cable inside its control building.
- Install the Transmission Provider provided instrument transformers.
- Procure and install disconnect switches on each side of each of the instrument transformers.
- Provide Transmission Provider unfettered and maintained access to the Transmission Provider's instrument transformers.
- Install Transmission Provider approved fiber optic cable in conduit from the Transmission Provider's collector substation control building to the POI substation fence line. Leave sufficient amounts of cable for the Transmission Provider to terminate the fiber in both its collector substation control building and POI substation control building.
- Provide Transmission Provider approved easements for all Transmission Provider Interconnection Facilities to be installed in the Interconnection Customer's collector substation.
- Arrange for and provide permanent retail service for power that will flow from the Transmission Provider's system when the Project is not generating with the utility holding service territory rights at this location. The arrangement must be in place prior to backfeed.
- Provide any construction or backup retail service necessary for the Project.
- Provide a professional engineer ("PE") stamped maintenance plan package for all Interconnection Customer protective equipment prior to energization.

#### 6.1.2 TRANSMISSION PROVIDER TO BE RESPONSIBLE FOR

- Provide the Interconnection Customer the designated point at which the voltage is to be maintained and the associated voltage schedule.
- Identify any necessary studies that the Interconnection Customer must have performed.

- Provide the Interconnection Customer the necessary specifications to allow the ground grid of the Interconnection Customer's collector substation and the POI substation to be tied together.
- Provide the Interconnection Customer the necessary specifications for the bus between the Interconnection Customer's collector substation and the new POI substation to be connected.
- Coordinate with Interconnection Customer on the location, size, and types of conduits and control cables between the POI substation and the collector substation.
- Install a control building on the property prepared by the Interconnection Customer.
- Procure and install a backup DC battery system for the Transmission Provider control building.
- Procure and install a communications racks and associated communications equipment in the Transmission Provider's control building.
- Terminate the fiber optic cable provided by the Interconnection Customer in the control building communications panel.
- Coordinate with the Interconnection Customer on the location of the Transmission Provider's instrument transformers.
- Provide the Interconnection Customer the specifications for the instrument transmission installation structures.
- Procure and provide to the Interconnection Customer two sets of 345 kV instrument transformers to be on installed on the high side of each of the Interconnection Customer's step-up transformers.
- Design, procure and install two sets of 345 kV revenue metering equipment including metering panels, primary and secondary revenue quality meters, test switches, junction boxes and secondary metering wire.
- Design, procure and install one hundred seventy-two (172) sets of revenue metering equipment including primary and secondary revenue quality meters on the DC side of each of the Interconnection Customer's inverters to separate the output of the solar and battery storage.
- Provide the control cable, junction boxes, enclosures and other communications equipment to be installed by the Interconnection Customer to support the DC metering equipment.
- Establish an Ethernet connection for retail sales and generation accounting via the MV-90 translation system.

#### **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 Interconnection Customer to be Responsible For

- Coordinate with the Transmission Provider on the procurement of the property rights for the location of the new POI substation if the Interconnection Customer has a desired location for the substation and is able to provide the Transmission Provider ownership of the property.
- Coordinate with the Transmission Provider on the location and design
  of the final span between the Interconnection Customer's collector
  substation and the POI substation. The Interconnection Customer's
  deadend structure shall meet Transmission Provider's standards.
  Leave sufficient quantiles of conductor for the Transmission
  Provider's terminate onto the POI substation deadend structure. The
  Transmission Provider will own the final span into the POI substation.
- Coordinate with the Transmission Provider on the commissioning of the communications coming from the Interconnection Customer's collector substation.

#### 6.2.2 TRANSMISSION PROVIDER TO BE RESPONSIBLE FOR

- Procure the necessary permits and/or property rights to allow for the construction and ownership of the new POI substation. If the Interconnection Customer is able to provide required property, coordinate to transfer ownership.
- Design, procure and construct, own and maintain a new 345 kV three breaker ring bus substation which will include the following major pieces of equipment:
  - $\circ$  (3) 345 kV breakers
  - $\circ$  (11) 345 kV group operated switches
  - $\circ$  (6) 345 kV CCVTs
  - $\circ$  (1) 345 kV SSVT
  - $\circ$  (3) 345 kV CT/VT metering combination units
  - $\circ$  (1) control house
  - o (2) bus differential CT junction cabinets
  - (1) marshalling cabinet
  - (6) Surge arresters
- Perform a CDEGS grounding analysis of the POI substation location.
- Terminate the last bus/line segment running from the Interconnection Customer's collector substation deadend structure into the POI substation deadend structure using Interconnection Customer provided and installed conductor, shield wire and line hardware.
- Terminate the transmission lines running from Camp Williams and Mona substations.
- Design, procure and install a marshalling cabinet near the Interconnection Customer's collector substation shared fence line.
- Provide and install conduit and control cabling between the marshalling cabinet and the control building bus differential cabinet.

- Design, procure and install a bus differential relay system for the connection to the Interconnection Customer's collector substation.
- Procure and install a relay for under/over voltage and over/under frequency protection of the system.
- Procure and install a line current differential relays for the lines to Camp Williams and Mona substations.
- Include the following data points from the new POI substation into the new substation RTU:

## Analogs:

- Net Generation MW
- Net Generator MVAr
- o Energy Register kWH
- Terminate the fiber optic cable to be looped into the POI substation installed on the Camp Williams-Mona transmission line.
- Procure and install the necessary communications equipment for protection and data provision to the Transmission Provider's existing communications network.
- Design, procure and install 345 kV revenue metering equipment for the Project including two (2) revenue quality meters, test switch, instrument transformers, metering panels, junction box and secondary metering wire.
- Provide and install an Ethernet 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 TRANSMISSION PROVIDER TO BE RESPONSIBLE FOR

- Camp Williams-Mona #1 Transmission Line
  - Loop the transmission line in/out of the new POI substation which will require the installation of a minimum of four transmission structures.
  - Loop the fiber optic cable installed on the transmission line in/out of the new POI substation.
- Mona Substation
  - Replace the line relays with versions compatible with relays to be installed in the new POI substation and install a new panel.
- Camp Williams Substation
  - Replace the line relays with versions compatible with relays to be installed in the new POI substation and install a new panel.
- Milford Substation



- o Replace the existing 75 MVA, 138-46 kV LTC transformer with a 150 MVA unit.
- Replace conductor within the substation with higher rated conductor.
- o Install six (6) disconnect switches.
- Modify relay settings to coordinate with the new TCS-41 POI substation relays.
- Huntington Substation
  - o Replace the jumpers on the 345 kV line to Emery substation.
- System Operations Centers
  - Update databases to include the Interconnection Customer's Generating Facility along with Interconnection Facilities and Network Upgrades.

#### 7.0 COST ESTIMATE (+/- 20%)

The following estimate represents only scopes of work that will be performed by the Transmission Provider. Costs for any work being performed by the Interconnection Customer are not included.

#### **Direct Assigned**

TOO AA	C-114	l4 - 4º
105-09	Conector	substation

\$4,630,000

Control house, metering and communications equipment

POI substation

\$980,000

Line termination and metering

Total: \$5,610,000

#### **Network Upgrades**

#### **Station Equipment**

**TCS-09 POI substation** 

\$13,400,000

Construct new 345 kV substation

#### Camp Williams-Mona transmission line

\$1,720,000

Loop line in/out of new substation

Total: \$15,125,000

#### **Shared Network Upgrades**

The following estimated costs are the Interconnection Customer's proportional share of the overall estimated costs for these upgrades for the entire cluster area in which this Interconnection Request resides.



Emery-Hunter transmission line Replace jumpers at Huntington substation	\$136,000	
Camp Williams substation Install new panels	\$580,000	
Mona substation Install new relay panels	\$580,000	
Milford substation Install new 150 MVA transformer	\$3,398,000	

**Network Upgrade Total:** \$4,694,000

Total: \$25,424,000

This estimate is as accurate as possibly given the level of detailed study that has been completed to date and approximates the costs incurred by Transmission Provider to interconnect this Generator Facility to Transmission Provider's electrical distribution or transmission system. The Interconnection Customer will be responsible for all actual costs, regardless of the estimated costs communicated to or approved by the Interconnection Customer.

#### 8.0 SCHEDULE

Execute Interconnection Agreement	April 3, 2023	
Provision of Financial Security	April 14, 2023	
Interconnection Customer Approval for Transmission Provider to Commence Engineering and Procurement Activities	April 14, 2023	
*Interconnection Customer Initial Design Package Provided	June 2, 2023	
Transmission Provider Engineering & Procurement Commences	June 2, 2023	
Interconnection Customer Energy Imbalance Market Submittal	August 4, 2023	
Interconnection Customer Property/Permits/ROW Procured	October 20, 2023	
Transmission Provider Property/Permits/ROW Procured	January 5, 2024	
*Interconnection Customer Final Design Package Provided	January 5, 2024	
Transmission Provider Engineering Design Complete	May 3, 2024	
Interconnection Customer Approval for Transmission Provider to		



	= =
Commence Construction Activities	May 3, 2024
Construction Begins	June 10, 2024
Interconnection Customer Commences Voltage Coordination Study	July 8, 2024
Interconnection Customer Submits Request for Voltage Schedule	July 8, 2024
Interconnection Customer Maintenance and Commissioning Plans Provided	August 1, 2025
Interconnection Customer and Transmission Provider Construction Complete	September 12, 2025
Transmission Provider Commissioning Activities Complete	October 24, 2025
Transmission Provider Commissioning Document Review Complete	October 30, 2025
Interconnection Customer's Facilities Receive Backfeed Power	October 31, 2025
Initial Synchronization/Generation Testing	November 3, 2025
Commercial Operation	December 12, 2025

\*Interconnection Customer 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. Interconnection Customer 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 Interconnection Customer's requested Commercial Operation date of November 30, 2023.

#### 9.0 PARTICIPATION BY AFFECTED SYSTEMS

Transmission Provider has identified the following affected systems: None

A copy of this report will be shared with each Affected System.



## 10.0APPENDICES

Appendix 1: Higher Priority Requests Appendix 2: Contingent Facilities Appendix 3: Property Requirements



#### 10.1 APPENDIX 1: HIGHER PRIORITY REQUESTS

All active higher priority Transmission Provider projects, and 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 Transmission Provider reserves the right to restudy this request, as the results and conclusions contained within this study could significantly change.

Transmission/Generation Interconnection Queue Requests considered:

LGI Q#	MW	TSR Q#
634	99	
636	99	
642	58	
752	40	2867
763	200	2872/2873
777	100	
778	200	2879
787	200	
788	200	
792	80	
799	67	
805	95	
815	20	
823	178	
838	525	





## 10.2 Appendix 2: Contingent Facilities

The following Interconnection Facilities and/or upgrades to the Transmission Provider's system are Contingent Facilities for the Interconnection Customer's Interconnection Request and must be in service prior to the commencement of generation activities:

None



#### 10.3 APPENDIX 2: PROPERTY REQUIREMENTS

#### **Property Requirements for Point of Interconnection Substation**

#### Requirements for rights of way easements

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

## **Real Property Requirements for Point of Interconnection Substation**

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

The Interconnection Customer 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.

Interconnection Customer 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 Transmission Provider. The real property shall be a permitted or able to be permitted use in all zoning districts. The Interconnection Customer shall provide Transmission Provider with a title report and shall transfer property without any material defects of title or other encumbrances that are not acceptable to Transmission Provider. 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:

1. 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 Transmission Provider unless waived by Transmission Provider.

2. 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. Transmission Provider may require Interconnection Customer to procure various studies and surveys as determined necessary by Transmission Provider.

Operational: inadequate access for Transmission Provider'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 Transmission Provider.