

**Large Generator Interconnection  
Facilities Study Report**

**FINAL**

Completed for

**(“Interconnection Customer”)  
C1-50**

**Proposed Point of Interconnection  
Mercer-Mona #1 345 kV transmission line**

**April 18, 2023**

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## **1.0 DESCRIPTION OF THE PROJECT**

The Interconnection Customer has proposed to interconnect 400 megawatts (“MW”) of new solar and battery storage generation to PacifiCorp’s (“Transmission Provider”) Mercer-Mona #1 345 kV transmission line located in Utah County, Utah. The Interconnection Request is proposed to consist of one hundred forty (140) Sungrow SG3150U solar inverters for a total output of 400 MW at the POI. The Interconnection Request also consists of thirty-six (36) Sungrow SG3150U battery storage inverters. The requested commercial operation date is October 1, 2024.

Interconnection Customer will NOT 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 “C1-50.”

## **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 If any of these requests are withdrawn, the Transmission Provider reserves the right to restudy this request, as the results and conclusions contained within this study could significantly change.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.

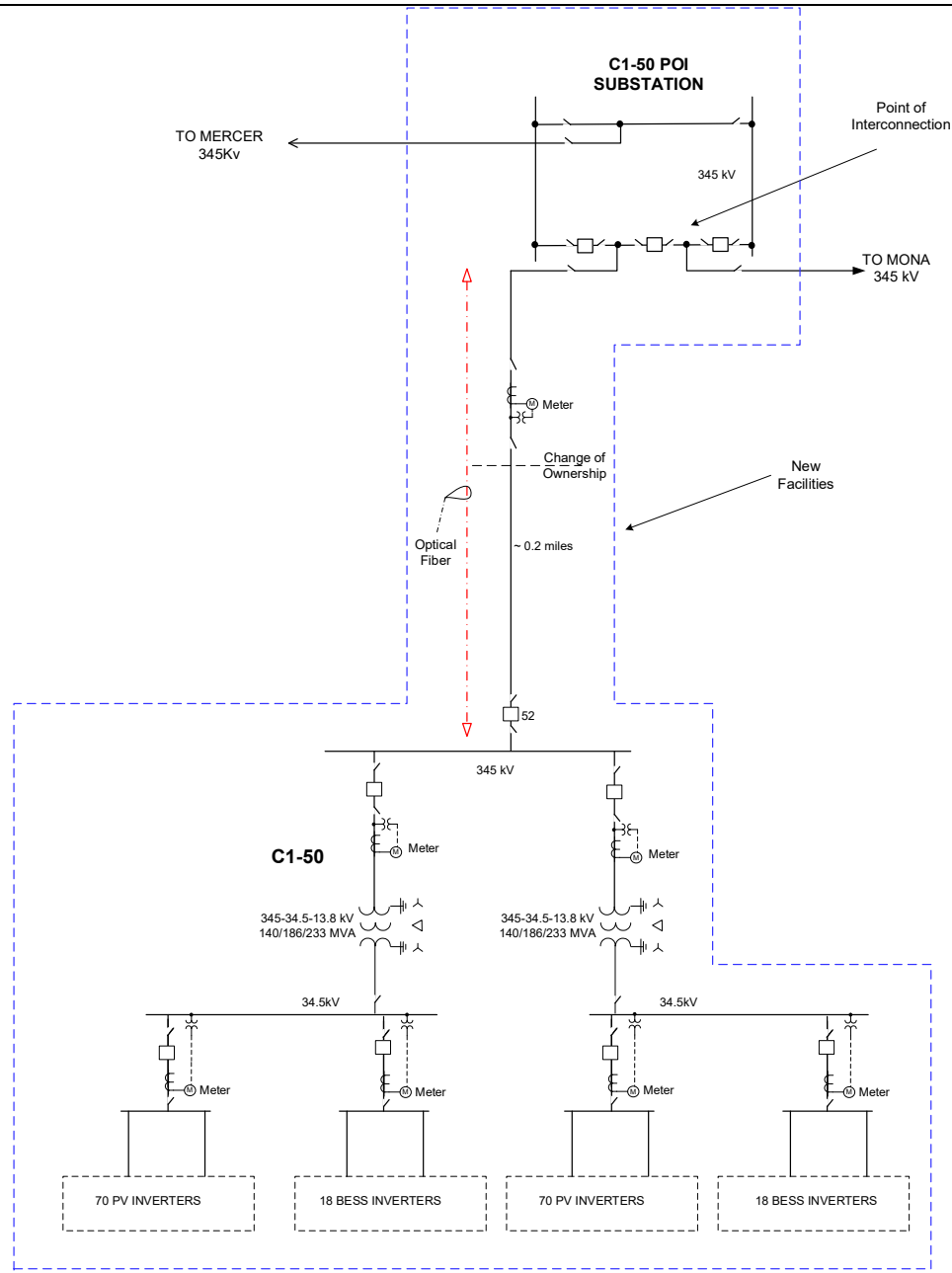
- The Interconnection Customer will construct and own any facilities required between the Point of Interconnection and the Project.
- Line reconductor or fiber underbuild required on existing poles will be assumed to follow the most direct path on the Transmission Provider's system. If during detailed 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 following Transmission Provider planned system improvements were assumed in service:
  - Gateway South Aeolus-Clover 500 kV transmission line (Q4 2024)
  - Gateway Central Oquirrh-Terminal #3 345 kV transmission line (Q2 2025)
  - Lakeside I Remedial Action Scheme (RAS) modification (Q2 2022)
  - Camp Williams 345/138 kV transformer and 138 kV yard addition (Q2 2025)
  - Mercer-Spanish Fork 345 kV transmission line (Q4 2027)
- The following system improvements assigned to higher priority Interconnection and/or Transmission Service Requests were assumed in service:
  - Milford 138 kV three breaker ring bus and Blundell 138 kV breaker (Q0820)
  - New South Milford – Milford 46 kV line (Q0820)
  - Rebuild of Cameron – Tushar - Sevier Tap – Sigurd 138 kV line (Q0820)
  - Lakeside II RAS modifications (TSR Q2867)
  - Replace jumpers on the Huntington end of the Emery-Huntington 345 kV transmission line. (Transition Cluster)
  - Upgrade 75 MVA 138-46 kV LTC transformer at Milford substation to 125 MVA transformer. (Transition Cluster)
  - Rebuild both the existing and the new (identified for Q0820) 46 kV Milford – South Milford transmission lines. (Transition Cluster)
- 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 (<https://www.oasis.oati.com/ppw>)

#### **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 Mercer-Mona #1 345 kV transmission line via a new Point of Interconnection substation. 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:
  - Three phase voltage and voltage angle (analog)
  - 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.
- Provide the Transmission Provider documentation demonstrating registration with NERC as the Generator Owner (“GO”) and Generator Operator (“GOP”) for the Large Generating Facility. Confirmation that registration documentation has been submitted to NERC must be provided prior to initial synchronization. Confirmation of registration with NERC must be provided within 30 days of Commercial Operation and be maintained throughout the lifetime of the Interconnection Agreement of the Large Generating Facility will be disconnected.
- 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.
- Procure and install line relays compatible with those to be installed in the POI substation for protection of the Interconnection Customer tie line. Coordinate settings with the Transmission Provider.
- 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 and a microwave communications system including a tower. The site 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 its control building.
- Perform a CDEGS grounding analysis for both the collector substation site and the Transmission Provider control building and provide the results to the Transmission Provider.

- Provide permanent AC power to the Transmission Provider's control building.
- Design, procure, and install a Transmission Provider approved data concentrator to transfer data from the collector substation to the Transmission Provider's RTU located at the collector substation control building via an optical fiber communications circuit in DNP3 protocol. The Transmission Provider will input and hold the second level passwords for the data concentrator. Password control ensures the Transmission Provider is aware of and is accepting of the changes being requested by the Interconnection Customer.
- Design, procure and install conduit and control cabling and hard wire the Interconnection Customer's source devices to the data concentrator. 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:

Analogs:

- Real power flowing through the #1 345 – 34.5 kV transformer
- Reactive power flowing through the #1 345 – 34.5 kV transformer
- 34.5 kV Real power PV Breaker 1
- 34.5 kV Reactive power PV Breaker 1
- 34.5 kV Real power BSS Breaker 1
- 34.5 kV Reactive power BSS Breaker 1
- Real power flowing through the #2 345 – 34.5 kV transformer
- Reactive power flowing through the #2 345 – 34.5 kV transformer
- 34.5 kV Real power PV Breaker 2
- 34.5 kV Reactive power PV Breaker 2
- 34.5 kV Real power BSS Breaker 2
- 34.5 kV Reactive power BSS Breaker 2
- Global Horizontal Irradiance (GHI)
- Average Plant Atmospheric Pressure (Bar)
- Average Plant Temperature (Celsius)
- BESS current energy capacity (MWh)
- BESS current energy capacity (%)
- BESS cycles or health (cycle count or % health)
- Max Gen Limit MW Set Point Feed Back
- Potential Power MW
- 345 kV A phase voltage
- 345 kV B phase voltage
- 345 kV C phase voltage

Analog Written to the RTU:

- Max Gen Limit MW Set Point

Status:



- 345 kV breaker 52
  - 345 kV transformer 1 high side breaker
  - 34.5 kV PV breaker 1
  - 34.5 kV BSS breaker 1
  - 34.5 kV transformer 2 high side breaker
  - 34.5 kV PV breaker 2
  - 34.5 kV BSS breaker 2
- Procure and install control cable from the Interconnection Customer's data concentrator to the Transmission Provider's collector substation control building. Leave a sufficient quantity of cable to allow the Transmission Provider to terminate the cable onto its communications equipment.
- 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.
- Procure and install Transmission Provider approved fiber optic cable from a splice to the Transmission Provider's fiber installed on the Interconnection Customer tie line to the Transmission Provider's collector substation control building. Leave a sufficient quantity of cable to allow the Transmission Provider to terminate the cable onto its communications equipment.
- 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 retail service provider in this area. If the retail provides is not Rocky Mountain Power this will require the retail service provider to obtain transmission service from the Transmission Provider. These arrangements must be in place prior to approval for 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.
- Install a control building and microwave tower 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 panels and associated communications equipment in the Transmission Provider’s control building.
- 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.
- 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.
- Procure and provide to the Interconnection Customer two sets of 345 kV instrument transformers to be on the high side of each of the step-up transformers.
- Design, procure and install four sets of 34.5 kV revenue metering equipment including metering panels, primary and secondary revenue quality meters, test switches, junction boxes and secondary metering wire.
- Procure and provide to the Interconnection Customer four sets of 34.5 kV instrument transformers to be on installed on each of the collector system strings.
- Provide the control cable to be installed by the Interconnection Customer from the instrument transformers to the Transmission Provider’s control building and coordinate on the location of the cable.
- Terminate the fiber optic cable provided by the Interconnection Customer in the control building communications panel.
- Establish an Ethernet connection for retail sales and generation accounting via the MV-90 translation system.

## **6.2 Tie Line Requirements**

The following outlines the design, procurement, construction, installation, and ownership of equipment associated with the radial line connecting the Interconnection Customer's Generating Facility to the Transmission Provider's Point of Interconnection substation.

### **6.2.1 INTERCONNECTION CUSTOMER TO BE RESPONSIBLE FOR**

- Procure all necessary permits, property rights and/or rights of way for the new transmission line between the Interconnection Customer's collector substation and the POI substation. Interconnection Customer will be responsible for all required regulatory or compliance reporting associated with its transmission tie line facilities.
- Design, construct, own and maintain the 345 kV transmission tie line between the Interconnection Customer's collector substation and the POI substation.
- If line crossings of existing Transmission Provider lines are required coordinate with the Transmission Provider to ensure all clearance requirements are met.
- Install Transmission Provider approved fiber optic cable from the collector substation to the POI substation to support the relaying and to provide the required data to the Transmission Provider. Leave a sufficient quantity to allow the Transmission Provider to splice the fiber to the fiber running from the POI substation control building.

### **6.2.2 TRANSMISSION PROVIDER TO BE RESPONSIBLE FOR**

- As necessary, coordinate with the Interconnection Customer on any line crossings.
- Provide the Interconnection Customer the specifications for the fiber optic cable to be installed on the tie line.
- Provide the Interconnection Customer the specifications for the final transmission structure to be installed outside the POI substation.

## **6.3 Point of Interconnection**

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

### **6.3.1 INTERCONNECTION CUSTOMER TO BE RESPONSIBLE FOR**

- Coordinate with the Transmission Provider to test and commission the communications system between the Interconnection Customer's collector substation and the POI substation.

### **6.3.2 TRANSMISSION PROVIDER TO BE RESPONSIBLE FOR**

- Procure the necessary permits and/or property rights to allow for the construction of the new POI substation.

- Design, procure and construct, own and maintain the new POI substation which will include the following major pieces of equipment:
  - (4) – 345 kV, breaker
  - (12) – 345 kV, switch, breaker disconnect
  - (4) – 345 kV, switch, line disconnect
  - (9) – 345 kV, CCVT
  - (6) – 345 kV, combined CT/VT instrument transformer
  - (12) – 345 kV, arrester
  - (1) – Control house
- Terminate the lines looped in from the Mercer-Mona transmission line.
- Terminate the last line segment running from the Interconnection Customer's tie line into the POI substation deadend structure using Interconnection Customer provided and installed conductor, shield wire and line hardware.
- Design, procure and install a redundant line current differential relay system for the connection to the Interconnection Customer's tie line. Diverse communications paths are required between the POI substation and the collector substation.
- Procure and install a relay for under/over voltage and over/under frequency protection of the system.
- Design, procure and install line current differential relay systems for the protection of the lines to Mercer and Mona substations.
- Include the following data points into the substation RTU:
  - Analog:
    - Net Generation MW
    - Net Generator MVar
    - Energy Register kWh
- Design and construct a microwave communications system to communicate with the microwave system installed in the Interconnection Customer collector substation.
- Terminate the fiber looped in from the Mercer-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.

#### **6.4 Other**

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

**6.4.1 TRANSMISSION PROVIDER TO BE RESPONSIBLE FOR**

- Mercer-Mona Transmission Line
  - Loop the transmission line and fiber in/out of the new POI substation which will require the installation of a minimum of four new transmission structures.
- Black Rock-Sigurd Transmission Line
  - Procure any permits, property rights and/or rights-of-way necessary to construct the new transmission line between Black Rock and Sigurd substations.
  - Design, construct, own and maintain a new, approximately 64-mile, Black Rock-Sigurd 230 kV transmission line.
  - Install standard fiber optic cable on the new transmission line.
- Black Rock Substation
  - Design, procure and construct, own and maintain the equipment to create a new line position for the line to Sigurd as well as a new 230 kV phase shifting transformer yard which will include the following major pieces of equipment:
    - (1) – 230 kV phase shifting transformer
    - (1) – 230 kV, breaker
    - (2) – 230 kV, switch, breaker disconnect
    - (2) – 230 kV, switch, line disconnect
    - (1) – 230 kV, switch, metering disconnect
    - (1) – 230 kV, transformer, phase shifting
    - (1) – 230 kV, breaker
    - (1) – 230 kV, circuit switcher
    - (4) – 230 kV, switch
  - Design, procure and install standard transformer relaying for the new phase shifting transformer.
  - Design, procure and install a line current differential relay system for the new transmission line to Sigurd substation.
- Sigurd Substation
  - Procure the necessary permits and/or property rights to allow for the expansion of the substation.
  - Design, procure and construct, own and maintain the equipment to create new line positions for the new transmission line will include the following major pieces of equipment:
    - (2) – 230 kV, breaker
    - (5) – 230 kV, switch, breaker disconnect
    - (1) – 230 kV, switch, line disconnect
    - (3) – 230 kV, CCVT
    - (3) – 230 kV, arrester

- Design, procure and install a line current differential relay system for the new transmission line to Black Rock substation.
  - Procure and install the necessary communications equipment for protection and data provision to the Transmission Provider's existing communications network.
- McClelland-Midvalley Transmission Line
  - Procure any permits, property rights and/or rights-of-way necessary to rebuild the 138 kV transmission line. It is assumed a new line will be constructed in parallel to the existing line and the old will be removed.
- McClelland Substation
  - Terminate the rebuilt line into the substation.
  - Update relay settings for the new line.
- Midvalley Substation
  - Terminate the rebuilt line into the substation.
  - Update relay settings for the new line.
- Mercer-Mona #1 Transmission Line
  - Procure any permits, property rights and/or rights-of-way necessary to increase the clearance of twenty (20) spans of the 345 kV transmission line.
- Camp Williams Substation
  - Review and update relay settings as necessary.
- Mona Substation
  - Install a new relay panel. Review and update relay settings as necessary.
- Spanish Fork Substation
  - Procure and install a new 138 kV circuit breaker to replace the existing CB146.
  - Update relay settings as necessary.
- Mercer Substation
  - Modify relay settings.
- Black Rock Osceola Transmission Line
  - Relocate the existing state line metering to account for the phase shifting transformer.
- 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 Interconnection Facilities Costs**

<b>Collector Substation</b> <i>Control house, relaying, communications, and metering</i>	\$1,375,000
<b>C1-50/C1-54 POI Substation</b> <i>Line termination and metering</i>	\$1,120,000
<b>Direct Assigned Total:</b>	<b>\$2,495,000</b>

**Station Equipment Network Upgrades****C1-50**

<b>C1-50/C1-54 POI Substation</b> <i>New 345 kV three breaker ring substation, loop transmission line in/out, RTU, and communications</i>	\$6,880,000
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**Shared Network Upgrades**

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

<b>Black Rock Substation</b> <i>New 230 kV bay and new 230kV phase shifting transformer</i>	\$6,487,000
<b>Sigurd Substation</b> <i>New 230 kV line position</i>	\$1,488,000
<b>Spanish Fork Substation</b> <i>Replace overdutied breaker</i>	\$97,000
<b>McClelland Substation</b> <i>Relay settings</i>	\$6,000
<b>Midvalley Substation</b> <i>Relay settings</i>	\$6,000
<b>Camp Williams Substation</b> <i>Relay settings</i>	\$6,000

<b>Mona Substation</b> <i>Relay settings</i>	\$6,000
<b>Camp Williams–Mona #1 Transmission Line</b> <i>Increase clearance of twenty spans</i>	\$1,448,000
<b>McClelland–Mid Valley Transmission Line</b> <i>Rebuild 6.5 miles of transmission line</i>	\$3,945,000
<b>Black Rock–Sigurd Transmission Line</b> <i>Construct new ~64-mile 230 kV line</i>	\$13,767,000

**Total Shared Network Upgrades: \$27,256,000**

**Total Network Upgrades: \$34,136,000**

**Grand Total: \$36,631,000**

\*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 Transmission Provider must develop the Project schedule using conservative assumptions. The Interconnection Customer may request that the Transmission Provider perform this field analysis, at the Interconnection Customer's expense, prior to the execution of an Interconnection Agreement in order to obtain more cost and schedule certainty.

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 Milestone Schedule**

Execute Interconnection Agreement	February 2, 2022
Provision of Financial Security	February 2, 2022
Interconnection Customer Approval for Transmission Provider to Commence Engineering and Procurement Activities	February 16, 2022
Transmission Provider Engineering & Procurement Commences	April 3, 2023
*Interconnection Customer Initial Design Package Provided	April 4, 2025



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Interconnection Customer Energy Imbalance Market Submittal	April 4, 2025
Interconnection Customer Property/Permits/ROW Procured	January 2, 2026
Interconnection Customer Approval for Transmission Provider to Commence Construction Activities	July 7, 2025
Transmission Provider Construction Commences	August 11, 2025
Transmission Provider Property/Permits/ROW Procured	May 1, 2026
*Interconnection Customer Final Design Package Provided	September 18, 2026
Transmission Provider Engineering Design Complete	November 20, 2026
Interconnection Customer Commences Voltage Coordination Study	November 23, 2026
Interconnection Customer Submits Request for Voltage Schedule	July 2, 2027
Interconnection Customer Maintenance and Commissioning Plans Provided	August 13, 2027
Interconnection Customer and Transmission Provider Construction Complete	September 10, 2027
Transmission Provider Commissioning Activities Complete	October 29, 2027
Transmission Provider Commissioning Document Review Complete	November 5, 2027
Contingent Facilities Complete	November 5, 2027
Interconnection Customer's Facilities Receive Backfeed Power	November 8, 2027
Interconnection Customer Submits NERC Registration Evidence	November 12, 2027
Initial Synchronization/Generation Testing	November 15, 2027
Commercial Operation	December 31, 2027
NERC Registration Provided	February 4, 2028

\*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.

#### Major Construction Estimated Timeframes

New Black Rock-Sigurd Transmission Line: 60 months

Black Rock Phase Shifter: 48 Months

McClelland–Mid Valley Transmission Line Rebuild: 48 months

POI Substation: 36 Months

Please note, the time required to perform the scope of work identified in this report appears to result in a timeframe that does not support the Interconnection Customer’s requested Commercial Operation date of December 31, 2025.

#### **9.0 PARTICIPATION BY AFFECTED SYSTEMS**

Transmission Provider has identified the following affected systems: NV Energy, Deseret Generation and Transmission Cooperative

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

#### **10.0 APPENDICES**

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:

<b>LGI Q#</b>	<b>MW</b>	<b>TSR Q#</b>
634	99	
636	99	
642	58	
752	40	2867/2939
763	200	2872/2873
777	100	
778	200	2879
787	400	
792	80	
799	67	
805	95	
815	20	
823	178	
838	525	
TCS-09	300	
TCS-41	31.1	

**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:

The following Transmission Provider planned projects:

- Lakeside I Remedial Action Scheme modification (Q4 2022)
- Lakeside II Remedial Action Scheme modification (Q4 2022)
- New Gateway South Aeolus-Clover 500 kV transmission line (Q4 2024)
- New Gateway Central Oquirrh-Terminal #3 345 kV transmission line (Q2 2025)
- Camp Williams 345/138 kV transformer and 138 kV yard addition (Q2 2025)
- New Mercer-Spanish Fork 345 kV transmission line (Q4 2027)

The following upgrade assigned to a load customer request:

- Replacement of the Oquirrh substation 345/138 kV transformer (Q3 2023)

**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.