

Large Generator Interconnection  
**Facilities Study Report**

**FINAL**

Completed for  
**(“Interconnection Customer”)**  
**C1-39**

Proposed Point of Interconnection  
**345 kV Red Butte substation**

**December 28, 2022**

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## **1.0 DESCRIPTION OF THE PROJECT**

The Interconnection Customer has proposed to interconnect 300 megawatts (“MW”) of new solar and battery storage generation to PacifiCorp’s (“Transmission Provider”) 345 kV Red Butte substation located in Washington County, Utah. The Interconnection Request is proposed to consist of one hundred three (103) SMA SC4200-UP, 3.57 MVA solar inverters for a total output of 300 MW at the POI. The Interconnection Requests also consists of one hundred eighteen SMA SCA3600-UP, 3.62 MVA battery storage inverters. The requested commercial operation date is June 15, 2023.

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 “C1-39.”

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 If any of these requests are withdrawn, the Transmission Provider reserves the right to restudy this request, as the results and conclusions contained within this study could significantly change.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

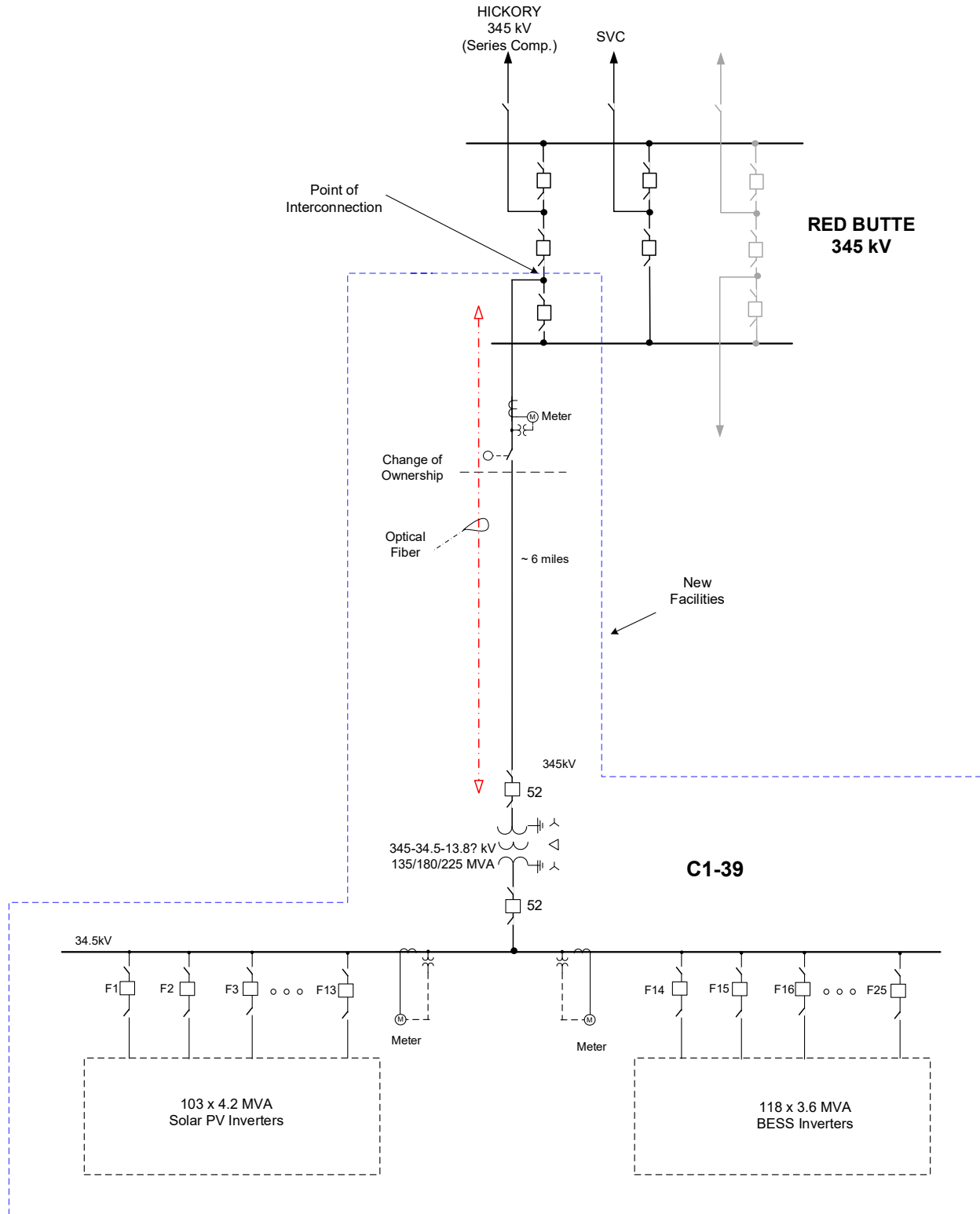
- different. Therefore, the Interconnection Customer should regard the results of this study as informational rather than final.
- This study assumes the Project will be integrated into Transmission Provider's system at the agreed upon and/or proposed point of interconnection.
  - The Interconnection 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:
    - Energy Gateway South – Aeolus-Clover 500 kV transmission line (Q4 2024)
    - Lakeside I Remedial Action Scheme modification (Q4 2022)
    - Magna Cap Bank (Q4 2023)
    - Camp Williams bus improvements (Q4 2024)
    - Cottonwood - Snyderville Reconductor (Q4 2024)
    - Spanish Fork – Mercer 345 kV transmission line (Q4 2027)
  - The following system improvements assigned to higher priority Interconnection or Transmission service requests are assumed to be in service:
    - Upgrade of the Emery 345-138 kV transformers #1 & #2 (Q0823)
    - Lakeside II RAS modifications (TSR Q2867)
    - Replace jumpers on the Huntington end of the Emery-Huntington 345 kV transmission line. (Transition Cluster Area 4)
    - Upgrade 75 MVA 138-46 kV LTC transformer at Milford substation to 150 MVA transformer. (Transition Cluster Area 4)
    - Pintura remedial action scheme modification (Q0642)
    - New Three Peaks remedial action scheme (Q0763)
  - 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 345 kV Red Butte substation via a new line position. 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 construct and install a communications site. The site will include a control building a self-supporting 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 communications site.

- 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 POI 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:

Analog:

- Real power flowing through the 345 – 34.5 kV transformer
- Reactive power flowing through the 345 – 34.5 kV transformer
- 34.5 kV Real power Breaker F1
- 34.5 kV Reactive power Breaker F1
- 34.5 kV Real power Breaker F2
- 34.5 kV Reactive power Breaker F2
- 34.5 kV Real power Breaker F3
- 34.5 kV Reactive power Breaker F3
- 34.5 kV Real power Breaker F4
- 34.5 kV Reactive power Breaker F4
- 34.5 kV Real power Breaker F5
- 34.5 kV Reactive power Breaker F5
- 34.5 kV Real power Breaker F6
- 34.5 kV Reactive power Breaker F6
- 34.5 kV Real power Breaker F7
- 34.5 kV Reactive power Breaker F7
- 34.5 kV Real power Breaker F8
- 34.5 kV Reactive power Breaker F8
- 34.5 kV Real power Breaker F9
- 34.5 kV Reactive power Breaker F9
- 34.5 kV Real power Breaker F10



- 34.5 kV Reactive power Breaker F10
- 34.5 kV Real power Breaker F11
- 34.5 kV Reactive power Breaker F11
- 34.5 kV Real power Breaker F12
- 34.5 kV Reactive power Breaker F12
- 34.5 kV Real power Breaker F13
- 34.5 kV Reactive power Breaker F13
- 34.5 kV Real power Breaker F14
- 34.5 kV Reactive power Breaker F14
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- 34.5 kV Real power Breaker F24
- 34.5 kV Reactive power Breaker F24
- 34.5 kV Real power Breaker F25
- 34.5 kV Reactive power Breaker F25
- 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
- 230 kV A phase voltage
- 230 kV B phase voltage
- 230 kV C phase voltage

Analog Written to the RTU:

- Max Gen Limit MW Set Point

Status:

- 345 kV transformer high side breaker 52

- 345 kV transformer low side breaker 52
  - 34.5 kV breaker F1
  - 34.5 kV breaker F2
  - 34.5 kV breaker F3
  - 34.5 kV breaker F4
  - 34.5 kV breaker F5
  - 34.5 kV breaker F6
  - 34.5 kV breaker F7
  - 34.5 kV breaker F8
  - 34.5 kV breaker F9
  - 34.5 kV breaker F10
  - 34.5 kV breaker F11
  - 34.5 kV breaker F12
  - 34.5 kV breaker F13
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  - 34.5 kV breaker F18
  - 34.5 kV breaker F19
  - 34.5 kV breaker F20
  - 34.5 kV breaker F21
  - 34.5 kV breaker F22
  - 34.5 kV breaker F23
  - 34.5 kV breaker F24
  - 34.5 kV breaker F25
- 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 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 self-supporting 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 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 instrument transformers to be installed on each of the solar/battery 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.
- Design and construct the final structure of the tie line outside of the POI substation to Transmission Provider's design and installation standards.
- Provide and install conductor, shield wire and line hardware in sufficient quantities to allow the Transmission Provider to terminate the line/bus connection from the tie line substation deadend structure in the POI substation dead end structure strain insulators.
- Install Transmission Provider approved fiber optic cable from the collector substation to the POI substation to support the protective relaying and 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 systems between the Interconnection Customer's collector substation and the POI substation.

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

- Procure any necessary permits and/or property rights to expand the substation to allow construction of a new line position.
- Design, procure and construct, own and maintain the equipment to create a new line position for the Interconnection Customer's tie line will include the following major pieces of equipment:
  - (1) – 345 kV, breaker
  - (1) – 345 kV, switch, line disconnect
  - (3) – 345 kV, arrester
  - (3) – 345 kV, combined CT/VT metering instrument transformer
  - (3)- 145kV CCVTs (quantity may change during design)
- Perform a CDEGS grounding analysis of the expanded portion of the substation.
- 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.
- Procure and install a relay for under/over voltage and over/under frequency protection of the system.
- Include the following data points into the substation RTU:  
Analogs:
  - Net Generation MW
  - Net Generator MVar
  - Energy Register kWh
- Construct a new microwave communications system including self-supporting tower to establish a link with the site constructed at the Interconnection Customer collector substation.
- 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.
- Perform an RTS study of the protective relay settings in the area due to the series compensation of the transmission line from Red Butte to Hickory substation.

#### **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**

- Emery-Spanish Fork Transmission Line
  - Improve clearances on five spans of the line to achieve a 30-minute rating of 1383 MVA.
- 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>	\$1,820,000
<i>Control building, metering and communications equipment</i>	

<b>Red Butte Substation</b>	\$1,180,000
<i>Line termination and metering</i>	

**Total: \$3,000,000**

##### **Station Equipment Network Upgrades**

<b>Red Butte Substation</b>	\$1,030,000
<i>Expand substation, new line position</i>	

##### **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>Emery-Spanish Fork Transmission Line</b> <i>Raise five spans of 345 kV line</i>	<b>\$830,000</b>
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**Total Network Upgrades: \$1,860,000**

**Grand Total: \$4,860,000**

\*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 3, 2023
Provision of Financial Security	July 12, 2024
Interconnection Customer Approval for Transmission Provider to Commence Engineering and Procurement Activities	July 12, 2024
Transmission Provider Engineering & Procurement Commences	September 9, 2024
*Interconnection Customer Initial Design Package Provided	December 9, 2024
Interconnection Customer Energy Imbalance Market Submittal	December 9, 2024
Interconnection Customer Property/Permits/ROW Procured	November 14, 2025
Transmission Provider Property/Permits/ROW Procured	February 6, 2026
*Interconnection Customer Final Design Package Provided	April 10, 2026
Transmission Provider Engineering Design Complete	June 19, 2026

Interconnection Customer Commences Voltage Coordination Study	July 6, 2026
Interconnection Customer Approval for Transmission Provider to Commence Construction Activities	August 3, 2026
Transmission Provider Construction Commences	October 5, 2026
Interconnection Customer Submits Request for Voltage Schedule	March 8, 2027
Interconnection Customer Maintenance and Commissioning Plans Provided	May 10, 2027
Interconnection Customer and Transmission Provider Construction Complete	July 9, 2027
Transmission Provider Commissioning Activities Complete	September 10, 2027
Transmission Provider Commissioning Document Review Complete	September 17, 2027
Interconnection Customer's Facilities Receive Backfeed Power	October 5, 2027
Contingent Facilities Complete	November 5, 2027
Interconnection Customer Submits NERC Registration Evidence	November 12, 2027
Initial Synchronization/Generation Testing	November 15, 2027
Commercial Operation	January 14, 2028
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.

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 June 15, 2023.



**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:

LGI Q#	MW	TSR Q#
634	99	
636	99	
642	58	
752	40	2867/2939
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	
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)
- New Mercer-Spanish Fork 345 kV transmission line (Q4 2027)

The following upgrade assigned to higher priority Interconnection Requests in Transition Cluster Area 4:

- Replacement of jumpers on the Emery-Huntington transmission line (Q4 2025)

**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.