



February 23rd, 2024

Mr. Doug Tucker
WECC Senior Engineer
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Salt Lake City, UT 84103-1114

RE: Portland General Electric - 2024 Annual Progress Report

Enclosed is Portland General Electric's (PGE) 2024 Annual Progress Report, sent in accordance with the WECC *Progress Report Policies and Procedures*.

All Generation and Transmission Facility additions and planned System operation included in this report conform to NERC Standards and WECC System Performance Criteria.

The Annual Progress report includes updates on six projects that have been granted a Waiver of "Significant Impact" Status and six new request for a Waiver of "Significant Impact" Status.

If you have any questions, please contact me at christopher.brem@pgn.com

Sincerely,

Christopher Brem
Transmission Planning Engineer
Portland General Electric

cc: Ian Beil PGE, Rejo Jose PGE, Jennifer Galaway PGE, Shaun Foster PGE, Pam Sporborg PGE, Adam Menendez, WECC RAC StS



2024 Annual Progress Report to WECC Portland General Electric

The following projects are included in the PGE Annual Progress Report in accordance with Section 5.3 of the *Progress Report Policies and Procedures* guideline. These projects have been granted a Waiver of "Significant Impact" Status and there have been no significant changes in the Plan of Service or capacity since the last PGE Annual Progress report was filed.

1. Horizon-Keeler BPA #2 230 kV Project

Estimated Date of release to operations: May 2024

This project constructs a second 230 kV line between PGE's Horizon substation and BPA's Keeler substation. This new line will add a third 230 kV source to the Hillsboro area to serve large industrial load growth. By 2024, PGE's NERC TPL-001 studies indicate that the loss of one of the two 230 kV sources into the area can cause the remaining source to approach its thermal rating during peak summer conditions. Load projections have increased since the last Annual Progress Report. As a result, this project, which was originally scheduled for completion by May 2025, has been accelerated and is now scheduled for completion by May 2024.

This project is studied in the PGE annual Planning Assessment in accordance with the requirements of the NERC TPL-001-5 reliability standard. The results of the Planning Assessment show that this project relieves overloads on the PGE system due to new load additions in PGE's North Hillsboro area. This project has been studied by BPA via a line and load interconnection request. The BPA study results demonstrate that there are not significant impacts to the BPA system. This project does not have significant impact on the operation of the Western Interconnection.

2. Harborton Reliability Project - Phase 2

Estimated Date of release to operations: November 2026

This project loops the Evergreen-St Marys-Trojan 230 kV line into the new 230 kV yard at Harborton, creating the Evergreen-Harborton 230 kV line and the Harborton-Trojan #2 230 kV line. A fifth 230 kV source will be created from the St Marys substation by reconfiguring the 115 kV System in the Bethany area. Finally, the 115 kV lines from Harborton to Canyon will be reconducted. The addition of more 230 kV lines into the Harborton substation mitigates the summer loading concern on the Harborton-Rivergate #2 115 kV line.

This project is studied in the PGE annual Planning Assessment in accordance with the requirements of the NERC TPL-001-5 reliability standard. The results of the Planning Assessment show that this project relieves overloads on the PGE system. This project has been studied jointly by PGE and BPA. The joint study results demonstrate that there are not significant impacts to the BPA system. This project does not have significant impact on the operation of the Western Interconnection.

3. Hillsboro Reliability Project

Estimated Date of release to operations: December 2025

This project comprises of the following:

The new Evergreen bulk power substation will be constructed with a 230 kV yard that will be four bays of breaker and one half, with two lines and three bulk power transformers. The Harborton-Horizon 230 kV line will be looped into Evergreen, creating the Evergreen-



Harborton 230 kV and Evergreen-Horizon 230 kV lines. The 115 kV yard will also be breaker and one half with five 115 kV line positions and three bulk power transformer positions. Two 115 kV cap banks will be installed for voltage support. The Helvetia-Shute 115 kV line will be looped into Evergreen, creating the Evergreen-Helvetia 115 kV and Evergreen-Shute #1 115 kV lines. The Rock Creek-Shute-Sunset 115 kV line will be unbundled to create the Evergreen-Rock Creek 115 kV line and the Evergreen-Sunset 115 kV line. The Evergreen-Shute 115 kV line will be reconducted to 2156 ACSS and an additional Evergreen-Shute #2 115 kV line will also be constructed with 2156 ACSS. Two 115/34.5 kV, 150 MVA distribution transformers will be installed initially to serve new load growth in the area.

This project is studied in the PGE annual Planning Assessment in accordance with the requirements of the NERC TPL-001-5 reliability standard. The Hillsboro Reliability Project constructs additional bulk power transformer capacity to serve the North Hillsboro area. In addition, the conversion of Brookwood substation provides loading relief to the Hillsboro area 57 kV System while providing additional distribution transformer capacity. The Orenco substation rebuild provides improved reliability and additional distribution capacity, as well as mitigates breakers at Orenco that will become overdutied upon the energization of Evergreen substation. This project does not have significant impact on the operation of the Western Interconnection.

4. Pearl/Sherwood Reinforcement Project
Estimated Date of release to operations: November 2025

Mitigate the overloading of the McLoughlin-Pearl BPA-Sherwood 230 kV line caused by the loss of the Pearl BPA-Sherwood 230 kV line.

This project will: bifurcate the Pearl BPA-Sherwood 230 kV line into Pearl BPA-Sherwood #1 and #2 230 kV lines; bifurcate the McLoughlin-Pearl BPA-Sherwood 230 kV line into the Pearl BPA-Sherwood #3 and McLoughlin-Pearl BPA-Sherwood 230 kV lines, and reconductor Pearl BPA-Sherwood #3 and the Pearl BPA to Sherwood sections of the McLoughlin-Pearl BPA-Sherwood 230 kV line with 2165 ACSS.

This project addresses overloads identified in accordance with the requirements of the NERC TPL-001-5 reliability standard in the near term – five year planning horizon. This project does not have significant impact on the operation of the Western Interconnection.

5. Reconductor Horizon-Keeler #1 230kV
Estimated Date of release to operations: May 2026

This project will reconductor the Horizon-Keeler #1 230 kV transmission lines from 1272 AAC to 2156 ACSS.

This project addresses overloads identified in accordance with the requirements of the NERC TPL-001-5 reliability standard in the near term – five year planning horizon. This project does not have significant impact on the operation of the Western Interconnection.

6. North of Sherwood Project (Previously listed as Reconductor Murrayhill-St Marys #1 & #2 230kV project and Sherwood 230kV Breaker Replacements project)



Estimated Date of release to operations: May 2026

This project will reconductor existing 230kV lines between Sherwood, Murrayhill and St Marys to 2156 ACSS. Construct a second 230kV line from Murrayhill to St Marys in existing BPA-owned right-of-way. One of the Murrayhill-Sherwood 230kV lines will become Sherwood-St Marys 230kV line. Upgrade all breakers and switches at the terminals of the lines to 4000 equipment.

This project addresses overloads identified following the loss of other 500 and 230kV sources during south-to-north flow conditions in the Beaverton/Hillsboro area. These flow conditions are the result of changing generation dispatch (increased solar from California), the addition of 500 and 230 kV infrastructure landing in the Sherwood area, and load growth within PGE service territory.

Eleven Sherwood 230 kV circuit breakers were identified as overdutied in the PGE annual Planning Assessment in accordance with the requirements of the NERC TPL-001-5 reliability standard in the near term – five year planning horizon. The replacement breakers will have a higher rating but will otherwise be installed to maintain the existing system configuration at the Sherwood substation. This project does not have significant impact on the operation of the Western Interconnection.

This project addresses overloads identified in accordance with the requirements of the NERC TPL-001-5 reliability standard in the near term – five year planning horizon. This project does not have significant impact on the operation of the Western Interconnection



2024 Annual Progress Report to WECC Portland General Electric

PGE requests a Waiver of "Significant Impact" Status for the following project in accordance with Section III.3 of the WECC *Progress Report Policies and Procedures* guideline, the following information is provided for the project:

- a. Project Name;
- b. Project Purpose;
- c. Brief Project description including expected termination points;
- d. Expected date of release to operations;
- e. Expected operating voltage; and,
- f. Explanation of why the Project is not expected to have significant impact on the operation of the Western Interconnection.

PGE is not seeking a path rating for the projects listed below. Completed studies have demonstrated there are no significant disturbances on other entities' systems. No WECC transfer paths have been identified as impacted by these projects. No flow control devices have been planned for the proposed project. This project is not expected to have significant impacts on the operation of the Western Interconnected System.

1. Blue Lake 230kV Battery Project

Estimated Date of release to operations: December 2024

This project will construct a 230kV Battery at Sundial substation and connect with the ability to provide 200MW of generation at Blue Lake substation's 230kV bus for up to 4 hours.

The need for this battery project was identified as part of the PGE Integrated Resource Planning (IRP) process.

This project does not have significant impact on the operation of the Western Interconnection.

2. Rivergate 230kV Battery Project

Estimated Date of release to operations: December 2024

This project will construct a 230kV Battery at Seaside substation and connect with the ability to provide 200MW of generation at Rivergate substation's 230kV bus for up to 4 hours.

The need for this battery project was identified as part of the PGE Integrated Resource Planning (IRP) process.

This project does not have significant impact on the operation of the Western Interconnection.

3. Evergreen 115kV Battery Project

Estimated Date of release to operations: December 2024

This project will construct a 115kV Battery at Constable substation and connect with the ability to provide 75MW of generation at Evergreen substation's 115kV bus for up to 4 hours.

The need for this battery project was identified as part of the PGE Integrated Resource Planning



(IRP) process.

This project does not have significant impact on the operation of the Western Interconnection.

4. Madras Solar 230kV

Estimated Date of release to operations: March 2027

This project will construct a 3 position, 230kV ring bus, Wapiti substation that will be built to allow point of interconnection from the solar plant.

This project was developed through the PGE Large Generator Interconnection Process. It will construct a new point of interconnection substation intersecting the existing Pelton-Round Butte 230kV line.

This project does not have significant impact on the operation of the Western Interconnection.

5. Jefferson Solar 230kV

Estimated Date of release to operations: March 2027

This project will construct a 3 position, 230kV ring bus, Juniper Butte substation that will be built to allow point of interconnection from the solar plant.

This project was developed through the PGE Large Generator Interconnection Process. It will construct a new point of interconnection substation intersecting the existing Redmond BPA-Round Butte 230kV line.

This project does not have significant impact on the operation of the Western Interconnection.

6. Evergreen-Harborton 230kV Reconductor

Estimated Date of release to operations: April 2029

This project will reconductor the Evergreen-Harborton 230 kV transmission line to 2156 ACSS.

This project addresses overloads identified in accordance with the requirements of the NERC TPL-001-5 reliability standard in the near term – five year planning horizon. This project does not have significant impact on the operation of the Western Interconnection.