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February 23, 2024

Mr. Tom Carr, Chair WECC Studies Subcommittee

Mr. Doug Tucker WECC Staff Liaison

#### Re: PacifiCorp 2024 Annual Progress Report

Dear Mr. Carr and Mr. Tucker,

In accordance with Western Electricity Coordinating Council project coordination process guidelines, PacifiCorp's 2024 Annual Progress Report outlining significant additions and changes to our system is provided below.

Should you have any questions, or require additional information, please contact me at (801) 220-4231.

Sincerely, Justin Monk

Justin Monk Transmission Planner II, PacifiCorp

cc: STS Members Rick Vail Todd Jensen Rikin Shah Scott Beyer Brett Allsup Lisa Harkins



# Table of Contents

<i>A</i> .	Planned Transmission and Generation Projects	3
I.	Energy Gateway Projects	4
А.	Gateway West Transmission Project – Project Update	6
B.	Gateway South Transmission Project – Project Update	8
C.	Gateway Central Transmission Project	9
D.	Longhorn-to-Hemingway (B2H)	10
II.	Blueprint Transmission Project	11
III.	Future Generation Projects	13
В.	Waiver of "Significant Impact" Status	13
С.	Updates to the Annual Progress Report from the Previous Submittal (2023)	15



### PacifiCorp 2024 Annual Progress Report to WECC

This annual progress report submission is divided into three separate sections, including a summary of all bulk electric system (BES) transmission projects<sup>1</sup> and generation in Section A; a request for Waiver of "Significant Impact" status in Section B; and updates to the annual progress report from the previous submittal (2023) in Section  $C^2$ .

## A. Planned Transmission and Generation Projects

This annual progress report is intended to 1) capture all BES transmission and generation projects that may have a significant impact on the reliability of the Western Interconnection; and 2) to inform neighboring systems in a timely manner regarding new facility additions to your system and associated system operation.

Technical studies have demonstrated that all existing facilities and planned facility additions, as well as associated operating procedures, are in conformance with North American Electric Reliability Corporation (NERC) Planning Standards and Western Electricity Coordinating Council (WECC) System Performance Regional Criteria.

The following projects are included in this Annual Progress Report:

- All major new and upgraded BES transmission facilities. Such projects include, but are not limited to, new transmission facilities, transmission redesigns or upgrades, permanent removal of existing transmission facilities, or other changes (e.g., operating procedures) that may significantly alter the operation of the transmission facilities
- Any facilities not covered under the BES transmission definition that may have a significant impact on the reliability of the Western Interconnection
- All generation projects (200 megawatts (MW) or greater) connected to the transmission system through step-up transformers. Such projects include, but are not limited to, new generation plants, generation repower or upgrades that may significantly alter the operation of the generation facilities

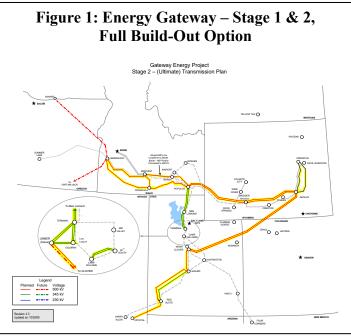
<sup>&</sup>lt;sup>1</sup> BES projects were determined based on the definition that was effective as of July 1, 2014.

<sup>&</sup>lt;sup>2</sup> This last section is intended to be a guide for comparing back-to-back Annual Progress Report submissions.

## I. Energy Gateway Projects

The Energy Gateway Projects (Gateway West, South and Central) were initially announced by PacifiCorp and Idaho Power in May 2007. The announcement included a description of the full

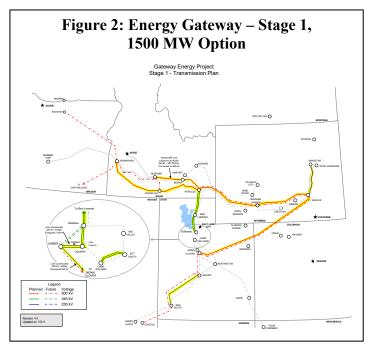
build-out of the projects, including Stages 1 and 2 (see overview diagram, Figure 1). In its 2011 Annual Progress Report submission to the Western **Electricity Coordinating Council** (WECC), PacifiCorp reported that third party requests and financial commitments that are necessary to support the Energy Gateway - Stage 2 facilities have not materialized. Therefore, PacifiCorp indicated that it would continue to pursue WECC path ratings for Stage 1 of Energy Gateway (see Figure 2) only at that time and will not further pursue ratings for Stage 2 facilities. For clarity,



references to the Gateway Project - Stage 1 configuration will be denoted as the Gateway Project throughout the remainder of this report.

Since the initial announcement, the projects have completed the WECC Regional Planning Process (November 2008) as well as Phase 1 (November 2008) and Phase 2 (July 2011) of the WECC Path Rating Process. Additionally, the Bureau of Land Management (BLM) has issued the Record of Decision (ROD) for all remaining segments of Gateway West (January 2017) and Right-of-Way Grant (August 2018), as well as the ROD for Gateway South (December 2016).

Due to the scope and nature of the Energy Gateway Projects, project



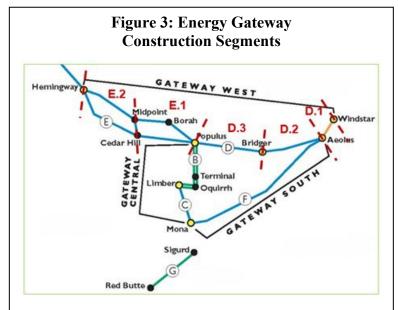
facilities will not be constructed simultaneously, but rather, the projects will be constructed in segments (or sub segments) – driven by need, permitting, and regulatory limitations. Additionally, project implementation has been developed such that facilities will be used, and

## PacifiCorp 2024 Annual Progress Report

useful as specific portions of the projects are placed in-service. The diagram in Figure 3 denotes the various construction segments that have been identified for the Energy Gateway Projects.

Those Energy Gateway Project segments that have previously been completed include:

- Gateway Central:
  - Portions of Segment B: Populus Terminal (November 2010)
  - Portions of Segment C: Mona – Oquirrh, constructed to 500 kilovolt (kV) and energized at 345 kV (May 2013)
- Gateway South, Segment
   G: Sigurd Red Butte
   (May 2015)
- Gateway West, Segment D, Sub Segment D.2: Bridger/Anticline - Aeolus (December 2020)



• Gateway West, Segment D, Sub Segment D.1: Aeolus – Shirley Basin (October 2020)

Project segments that will be constructed in the future include:

- Gateway West, Segment D: Windstar Populus
  - Sub segment D.1: Windstar Shirley Basin
  - Sub segment D.3: Populus Anticline
- Gateway West, Segment E: Populus Hemingway
  - Sub segment E.1: Populus Midpoint/Cedar Hill
  - o Sub segment E.2: Midpoint/Cedar Hill Hemingway
  - Gateway South, Segment F: Aeolus Clover
  - Gateway Central, Segment C: Limber Terminal

See Tables 1, 2 and 3 for projected in-service dates of Gateway West construction segments.

## A. Gateway West Transmission Project – Project Update

The following permitting status for the Gateway West project is provided:

The federal National Environmental Policy Act (NEPA) permitting process began in April 2007 when the companies filed the application with the BLM. Public scoping meetings followed in June 2008. The BLM published its draft Environmental Impact Statement (EIS) July 29, 2011, and a year later in August 2012, identified the agency-preferred alternative routes for Gateway West.

In following the NEPA process, the BLM has completed the EIS for the Gateway West project. The BLM released its final EIS April 26, 2013, followed by the ROD November 14, 2013, providing a right-of-way grant for most of the project. The agency chose to defer its decision on the western-most portion of the project located in Idaho to perform additional review of the Morley Nelson Snake River Birds of Prey Conservation Area. In September 2014, the BLM announced their intent to conduct a supplemental EIS for the final two segments. A draft supplemental EIS was published in March 2016 and a final ROD was issued January 19, 2017. On April 17, 2017, the Interior Board of Land Appeals remands January 2017 ROD back to BLM for reconsideration. In response to a request from Idaho Governor Otter to the Secretary of the Interior, the January 2017 ROD for the Gateway West project was officially rescinded and remanded back to the BLM Idaho State Office for further consideration. President Trump signed the Fiscal Year 2017 Consolidated Appropriations Act into law in May 2017, which included an agreement to route segments 8 and 9 of the Gateway West Transmission Line Project through the Morley Nelson Snake River Birds of Prey National Conservation Area (NCA). House Resolution 2104 directs the Secretary of Interior to grant right-of-way for the Companies' preferred route (Alternative 1) through the NCA. The BLM published the final supplemental environmental assessment (EA) for segments 8 and 9 on January 5, 2018, and Right-of-Way Grant was issued August 8, 2018.

## **Gateway West – Plan of Service and Planned Operating Date**

An overview of the Gateway West transmission system facility modification and in-service dates are summarized in Table 1.

Gateway West Transmission Project Facilities	Date
Construction of one new 230 kilovolt (kV) circuit from Windstar to Shirley Basin (57 miles) with 2-1272 ACSR Bittern/phase [PAC owned facility].	Q4 2024 (Under Construction)
Construction of one new 3.5-mile 230 kV Aeolus - Freezeout line with 2X1158.4 Hudson conductor. [PAC owned facility]	Q4 2024 (under construction)

Rebuild the DJ-Amasa-Heward (new)-Shirley Basin 230 kV line from 1-1272 ACSR/phase to 2-1272 ACSR/phase. [PAC owned facility]	Q4 2024 (under construction)
Addition of two – 525/230 kV (1600 MVA) autotransformers (6 x 1 $\Phi$ ) at Aeolus [PAC owned facility]	Q4 2024 (under construction)
Two - 200 MVAr (230 kV), two - 200 MVAr (500 kV), shunt capacitors. Add one new 60 MVAR reactor at Aeolus 230 kV. [PAC owned facility]	Q4 2024 (under construction)
Dynamic device requirements under review.	
Addition of 50% of series compensation near Latham on the Aeolus – Anticline 500 kV line	2031 (earliest)
Modification of the Remedial Action Scheme (RAS) at Aeolus for loss of Bridger/Anticline-Aeolus facilities and Aeolus – Clover facilities [PAC owned facility] – Initial D.2 Project facility	In-Service: October 2024
Bridger/Anticline West (Path 19)	<u> </u>
Addition of one - 500/345 kV (1600 MVA) auto transformer (3 x 1Φ) at Anticline [PAC owned facility] – Initial D.2 Project facility	In-Service: October 2020
Replace the Bridger 345/230 kV #2 (200 MVA) autotransformer with a700 MVA autotransformer [PAC/IPC jointly owned facility]	In-service: April 2022
Replace the Bridger 345/230 kV #1 and #3 (2 x 200 MVA) autotransformers with a single 700 MVA auto transformer. [jointly owned facility]	2033 (earliest)
Addition of four 345/345 kV (533.3 MVA) phase-shifting transformers at Anticline [PAC owned facility]	Q4 2024 (under construction)
Construction of one new 345 kV circuit from Anticline to Bridger (5 miles) [PAC owned facility] – Initial D.2 Project facility	In-Service: October 2020
Construction of one new 500 kV circuit from Anticline to Populus with 50% of series compensation (203 miles) [PAC owned facility]	Q4 2031 (earliest)
Addition of one - 500/345 kV (2000 MVA) autotransformer (3 x 1Φ) at Populus [PAC owned facility]	Q4 2031 (earliest)
Aeolus 230 kV SVC (-150/+300 MVAr)	Q4 2031 (earliest)
Modification of the generator tripping scheme at Bridger (RAS C/D) to include tripping of eastern Wyoming wind generation for loss of Bridger West transmission facilities.	Q4 2024:
Borah [/Populus] West (Path 17)	
Construction of one new 500 kV circuit from Populus to Borah (55 miles) and new 500 kV circuit between Borah and Midpoint (88 miles). These line sections will be built by conversion of the operating voltage	2036 (earliest)

Q4 2036 (earliest)
2036 (earliest)
2036 (earliest)
In-Service: July 2010
2036

# **B.** Gateway South Transmission Project – Project Update

The following updates to the previous WECC Annual Progress Report for Gateway South are provided:

The 2023 PacifiCorp Integrated Resource Plan (IRP) preferred portfolio includes the Aeolus-to-Mona (Clover substation) transmission segment (Energy Gateway South or Segment F). This segment is included in the preferred portfolio as a component of the least-cost, least-risk plan.

The 500 kV transmission segment extends 416 miles between the new (as part of Gateway West sub-segment D.2) Aeolus substation near Medicine Bow, Wyoming, and the existing Clover substation located near Mona, Utah. PacifiCorp, with stakeholder involvement, has pursued permitting of the Energy Gateway South transmission project since 2008. In May 2016 the BLM released its final EIS and issued their ROD in December of the same year. In May 2018 the

United States Forest Service issued its ROD, completing the permitting on federal lands and providing a right-of-way grant for federal properties.

Based on the IRP analysis, the Aeolus-to-Mona transmission segment is under construction and will be placed into service by Q4 2024. Based on the 2023 IRP, development of the Aeolus-to-Mona transmission segment will align with additional renewable generation projects that will further decarbonize PacifiCorp's portfolio.

### Plan of Service and Planned Operating Date

An overview of the Gateway South transmission system modifications and in-service dates are summarized in Table 2.

Gateway South Transmission Project Facilities	Dates
Aeolus South	1
Construction of one new 500 kV circuit from Aeolus to Clover with 50% series compensation (416 miles) and add two - 500/345 kV (1600 MVA) autotransformer (6 x 1Φ) at Clover [PAC owned facility]	Q4 2024 (under construction)
Loop-in the 345 kV circuit between Huntington and Mona into Clover and rebuild the existing Clover – Mona 345 kV #1 and #2 lines. [PAC owned facility]	Q4 2024 (under construction)
Reterminate Mona – Camp Williams #3 345 kV line into Clover making it Clover – Camp Williams # 3 345 kV line.	Q4 2024 (under construction)

### Table 2: Gateway South Facilities and In-Service Dates

# C. Gateway Central Transmission Project

The following updates to the previous WECC Annual Progress Report for Gateway Central are provided:

## <u>Oquirrh to Terminal</u>

This section of new transmission will link together other recently constructed transmission sections, specifically Clover (<u>Mona)-to-Oquirrh</u> and <u>Populus-to-Terminal</u>, to complete the Gateway Central portion of the Energy Gateway Project. All rights-of-way have been procured. The in-service date for this line is noted in Table 3.

#### **Plan of Service and Planned Operating Dates**

An overview of the Gateway Central transmission system modification is summarized below.

Gateway Central - Transmission Facilities	Dates	
Populus-to-Terminal double circuit 345 kV (135 miles)	In-Service: November 2010	
Addition of the 500 kV single circuit between Clover (Mona) and Limber, energized at 345 kV (65 miles)	In-Service: May 2013	
Addition of the 345 kV double circuit between Limber and Oquirrh (32 miles). The Limber-to-Oquirrh #1 circuit will be initially energized at 138 kV for service to the Tooele Valley.	In-Service: May 2013	
Addition of the 345 kV double circuit between Oquirrh and Terminal (14 miles)	Q4 2024	
<ul> <li>Construct Limber 500/345/138 kV substation</li> <li>Terminate Clover – Oquirrh 345 kV line into Limber</li> <li>Energize the Clover – Limber section of the Clover –line to 500 kV</li> <li>Install one (1) 1600 MVA 525/345 kV auto transformer at Limber</li> <li>Install two (2) 700 MVA 345/138 kV auto transformer at Limber</li> <li>Convert the existing Oquirrh - Tooele 138 kV line to 345 kV which is already constructed to 345 kV and create the second Limber – Oquirrh 345 kV line</li> <li>Construct a new approximately 12 mile 138 kV line from Limber - Tooele</li> </ul>	Q4 2027	

## Table 3: Gateway Central Facilities and In-Service Dates

## D. Longhorn-to-Hemingway (B2H)

PacifiCorp is jointly participating with Idaho Power in the construction of the Longhorn to Hemingway (B2H) 500 kV transmission line. This new line, previously referred to as the Boardman to Hemingway line, will be approximately 290 miles between the planned Longhorn substation near Boardman, Oregon and the Hemingway substation near Melba, Idaho. The project has a planned in-service date of Q4 2026. The transmission line will facilitate continued and long-term growth of new renewable resources, provide load service to Oregon customers and provide additional transfer capacity between PacifiCorp East (PACE) and PacifiCorp West (PACW).

## II. Blueprint Transmission Project

The Blueprint transmission project will connect major resource and load areas in central and eastern Oregon through construction of approximately 320 miles of new 500 kV transmission line and associated 500 kV and 230 kV system upgrades. The project was initiated in PacifiCorp' 2022-2023 local planning process in included in the 2022-2023 biennial Local Transmission System Plan. The project components are grouped into three primary segments:

- Blueprint South: Snow Goose-Corral Annex 500 kV
- Blueprint North: Corral Annex-Apex 500 kV
- Blueprint East: Apex-Maverick-Feedville 500 kV

Within each of the primary segments, new substations, series compensation stations and modifications to existing substations are identified to facilitate integration with the existing transmission system.

PacifiCorp plans to initiate the Initial Progress Report in 2024 and does not intend to seek a waiver of significant impact. The Blueprint project will largely parallel the existing Northwest AC Intertie (NWACI) 500 kV system, interconnecting with that existing system at various points. As a result, significant coordination with NWACI owners and other affected systems is anticipated to be required and will likely affect the final plans and design for facilities.



## Blueprint South: Snow Goose-Corral Annex 500 kV

Construct a new, approximately 166-mile 500 kV line with two 500 kV mid-line series capacitor stations providing 40% series compensation each, for 80% series compensation in total. The transmission line will include shunt compensation for voltage control and will be designed to support single-pole switching.

In support of this transmission line addition, the following transmission facility additions and modifications will be required:

- Snow Goose Substation Expand to accommodate new 500 kV line termination
- Twin River Substation (Future) Future 500/230 kV Chiloquin area source substation

- Chemult Substation New 500 kV series compensation station
- Paulina Substation New 500 kV series compensation station
- Corral Annex Substation New 500/230 kV substation, connecting to existing 230 kV system in the Prineville, Oregon area

The Blueprint South segment has a targeted in-service date of Q4 2032.

### Blueprint North: Corral Annex-Apex 500 kV

Construct new, approximately 144-mile 500 kV line with one 500 kV mid-line series capacitor station providing 50% series compensation. The transmission line will include shunt compensation for voltage control and will be designed to support single-pole switching.

In support of this transmission line addition, the following transmission facility additions and modifications will be required:

- Corral Annex Substation New 500/230 kV substation, connecting to existing 230 kV system in the Prineville, Oregon area
- Snowball Substation New 500 kV series compensation station
- *Dual Mesa Substation (Future)* Future 500/230 kV substation to accommodate potential load interconnection request currently under study
- Apex Substation Being constructed for customer load interconnection requests, expand to accommodate new 500 kV line termination

The Blueprint North segment has a targeted in-service date of Q4 2032

## Blueprint East: Apex-Maverick-Feedville 500 kV

Facilities to be constructed under individual service agreements for load interconnection requests, to include 500 kV between Apex and Maverick substations and a future 500 kV connection to the planned Feedville substation.

In support of this transmission line addition, the following transmission facility additions and modifications will be required:

- Apex Substation Being constructed for customer load interconnection requests, expand to accommodate new 500 kV line termination
- Maverick Substation New 500 kV substation tapping the Hemingway to Longhorn (B2H) line. Includes series compensation toward Hemingway
- *Feedville Substation (Future)* New 500/230 kV transformation connecting to Feedville 230 kV substation being constructed for customer load interconnection requests

The Blueprint East segments will be constructed per the load interconnection service agreements, with planned in-service dates of Q3 2025 through Q3 2028.

## III. Future Generation Projects

This section includes all significant generation projects (200 MW or greater) connected to or removed from the transmission system through step-up transformers or generation projects that may have a significant impact on the reliability of the Western Interconnection.

Project Queue or Name	Location (County, State)	Participants	One- Line Diagram	Status	Generation Capacity (MW)	Туре	Trans- mission Facil- ities (kV)	Studies
409	Albany, WY	PacifiCorp	On File	Construction	320	Wind	230	Complete
687	Klamath, OR	PacifiCorp	On File	Suspended	415.8	Pumped Storage	500	Complete
713	Converse, WY	PacifiCorp	On File	Construction	350	Wind	230	Complete
719	Albany, WY	PacifiCorp	On File	Construction	280	Wind	230	Complete
778	Emery, UT	PacifiCorp	On File	Construction	200	Solar	345	Complete
787	Emery, UT	PacifiCorp	On File	Construction	200	Solar	345	Complete
836	Carbon, WY	PacifiCorp	On File	Construction	400	Wind	230	Complete
838	Utah, UT	PacifiCorp	On File	Construction	525	Solar	345	Complete
C1-44	Lake, OR	PacifiCorp	On File	Construction	400	Solar & Battery	500	Complete

 Table 4: Significant Generation Additions- PacifiCorp East/ West

## B. Waiver of "Significant Impact" Status

Table 5 summarizes planned transmission projects within the PacifiCorp system for which waivers of "Significant Impact" Status for the purpose of Project Coordination Review Process are being requested. The purposes of these projects are for serving local load, to enhance or maintain local reliability, and/or to reduce local capacity requirements. These projects are not expected to have significant impacts on the operation of the Western Interconnection.

Project Name	Project Description	In Service Date
Aeolus – Freezeout #2 230 kV	Construct a second 4.1-mile 230 kV line between Aeolus and Freezeout substations. This project does not have interactions with other entities.	2024
Apex Substation Project	Construct a new, approximately 1.0 mile 500 kV line between Portland General Electric (PGE) Grassland and PacifiCorp (PAC) Apex substations; new, approximately 15 mile, 500 kV line between Apex substation and a tap of the Hemingway-Longhorn line; new Apex 500/230 kV substation and local 230 kV system to serve customer load requests. This project has been coordinated through load interconnection and transmission interconnection studies between affected systems and will not impact any established path ratings.	2025
Feedville Substation Project	Construct a new, approximately 11 mile, 230 kV line between the new Feedville and Stone Pit substations to serve customer load requests; construct new 230/69 kV Feedville substation. This project has been coordinated through load interconnection and transmission interconnection studies between affected systems and will not impact any established path ratings.	2027
Southern Oregon 230 kV Line Upgrades	Reconductor-rebuild approximately 108.3 miles of 230 kV lines in the Klamath Falls and Medford areas of southern Oregon to increase capacity. This project is coordinated with Bonneville Power Administration (BPA) and PGE to conform with existing parallel path ratings.	2028-2031

#### Table 5: Planned Transmission Projects (Waiver)

Project Name	Project Description	In Service Date
Alvey-Malin 500 kV Series Compensation Upgrades	Coordinated with the addition of the Sams Valley 500-230 kV substation, replace the existing Meridian 500 kV series capacitor with new series capacitors at Meridian and Sams Valley substations to increase compensation of the 500 kV line from 50% to 75%.	2029
Limber – Terminal 345 kV lines	These two 345 kV lines will connect the Terminal substation in northern Salt Lake to the Limber substation in central Utah. These 345 kV lines are internal to PacifiCorp East transmission system and are being built to enhance the reliability of load service as well as increase transfer capability south-to- north and vice versa across Wasatch Front. These lines neither parallel any major WECC path nor will impact any WECC path ratings.	2027

## C. Updates to the Annual Progress Report from the Previous Submittal (2023)

The following updates to the PacifiCorp 2023 Annual Progress Report were made in developing this document:

- 1. The summary for the Energy Gateway Projects has been updated to reflect current planned in-service dates. Please note several projects were put in-service in 2020.
- 2. Table 4 Significant Generation Additions PacifiCorp East/West This table has been updated from the 2023 submission to reflect current generation interconnection queue status.
- 3. Table 5 Planned Transmission Projects (Waiver) has be updated to reflect current planned project waiver requests.