

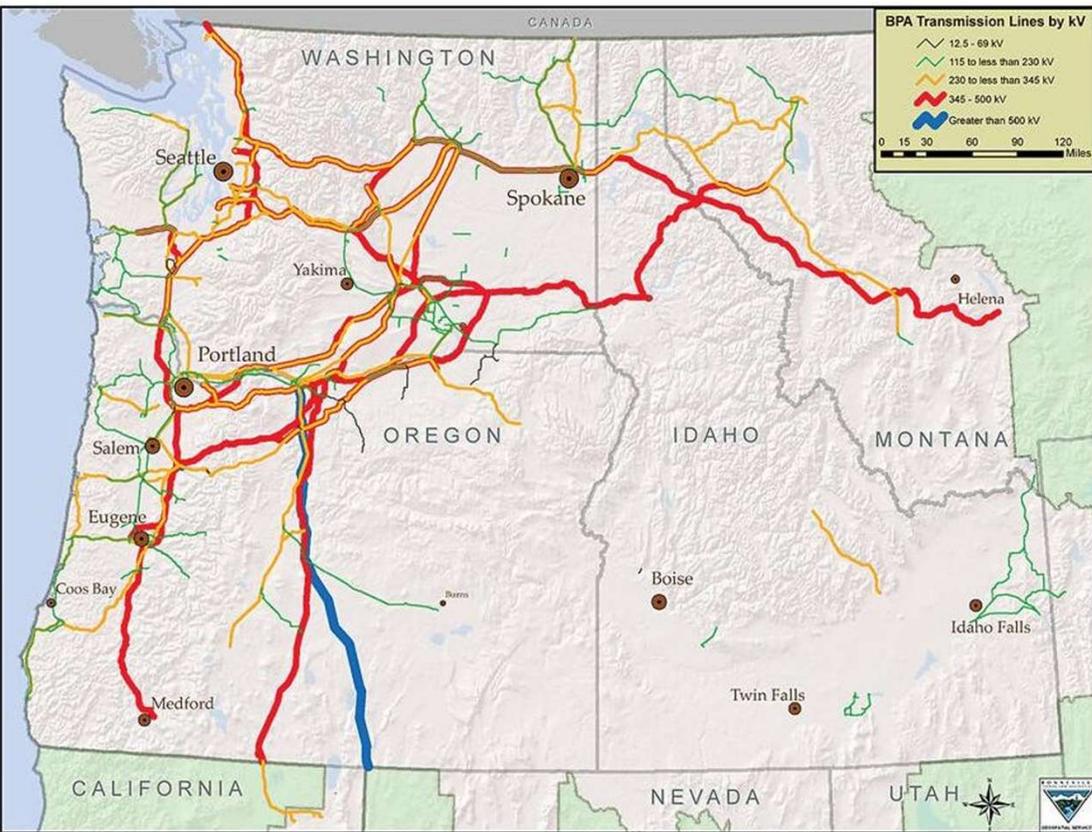
Addressing Transmission Needs in the Northwest

Jeff Cook, VP Engineering Services (Acting)

August 20, 2025



Federal Columbia River Transmission System (FCRTS)



BPA's transmission system contains approximately 15,000 miles of high voltage lines which makes up 75% of the Northwest grid.

Transmission system

Operating voltage	Circuit miles
1,100 kV	1
1,000 kV	264 ¹⁰
500 kV	4,860
345 kV	570
287 kV	229
230 kV	5,337
161 kV	119
138 kV	56
115 kV	3,440
below 115 kV	301
Total¹¹	15,179

^{10/} BPA's portion of the PNW/PSW direct-current intertie. The total length of this line from The Dalles, Oregon, to Los Angeles, California is 846 miles.
^{11/} Total circuit miles as of February 2019.

✓ Arteries ≈ 11,261 (74%) ✓ Veins ≈ 3,916 (26%)

2025 Peak BA Load: 11,354 MW (2/12/25)

2025 Ave BA Load: 6,921 MW

2024 Peak BA Load: 11,396 MW (1/13/24)

2024 Ave BA Load: 6,623 MW

FCRTS Situation Analysis

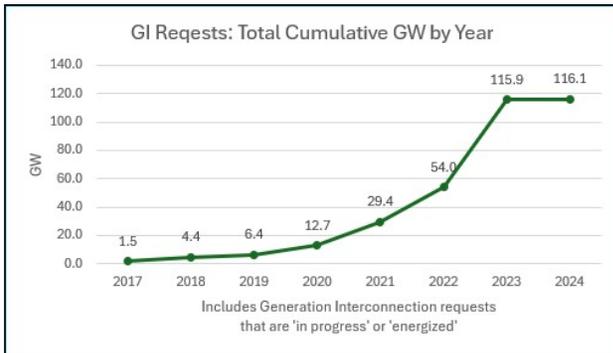
- In response to electrification and resiliency, greater numbers of requests to use the transmission grid as well as additional reliability-based limitations (WECC & NERC) are accelerating use of the existing system.
- Existing processes and resources are being stretched to limits in attempts to respond effectively to the growing demand across multiple fronts.

Background: Queue Overview

BPA identifies transmission upgrades in response to customer needs in three general areas: 1) Generator Interconnection, 2) New Transmission Service (NITS and PTP) and 3) Line/Load Interconnection

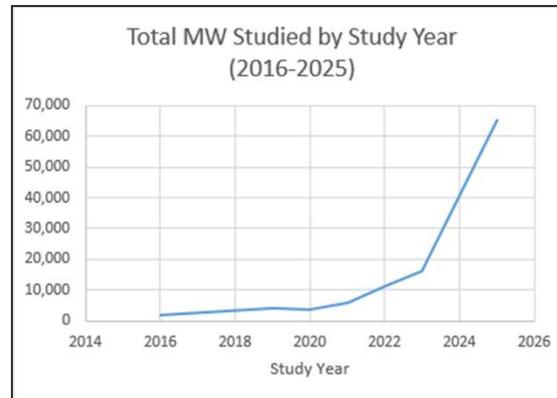


1. Generator Interconnection

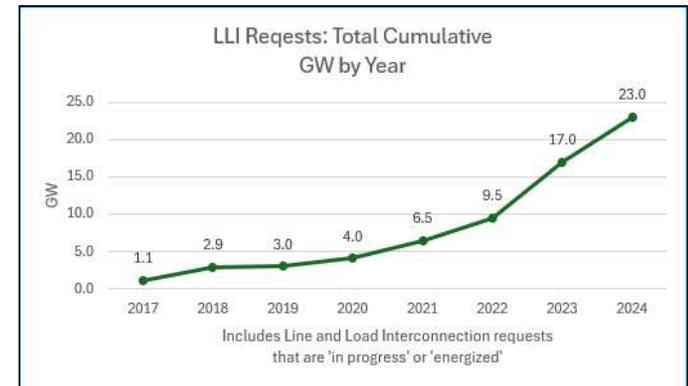


Pre-Decisional. For Discussion Purposes Only.

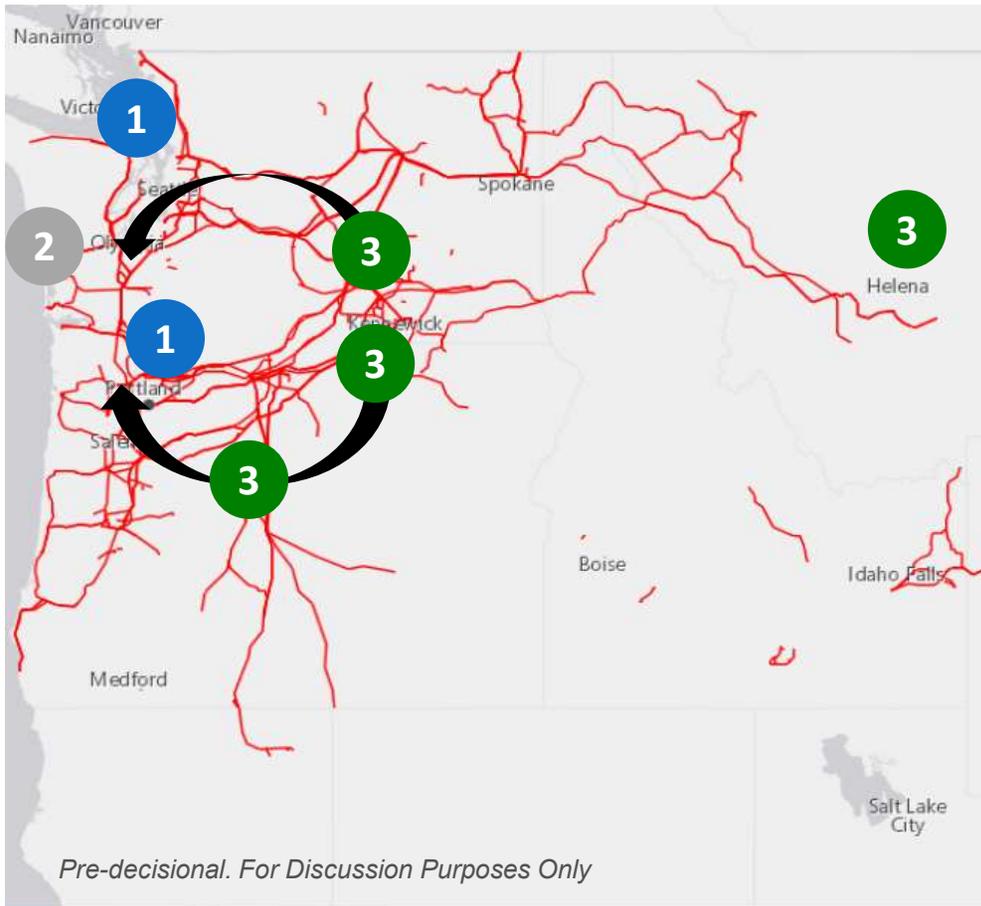
2. Transmission Service



3. Line/Load Interconnection



What “We” Want BPA to Do



The following factors heavily impact electrical flows across the FCRTS:

- 1 Load growth in Portland and Seattle – driven by high tech industry, transportation and building electrification
- 2 Reduced operation of 4.5 GW of carbon emitting generators on the west side along the I5 corridor
- 3 Replacement wind and solar resources are located east of the Cascades

Will increase flows on cross-Cascades transmission paths and throughout the load centers

Grid Access Transformation

Readiness Criteria

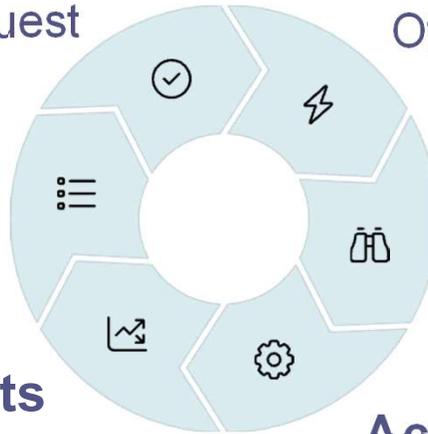
Eligibility standards for a valid request

Interim Service

Offer earlier access with informed risk

LTF Queue Management

Activating what can move forward



Proactive Planning

Move ahead of requests

NITS Forecasts

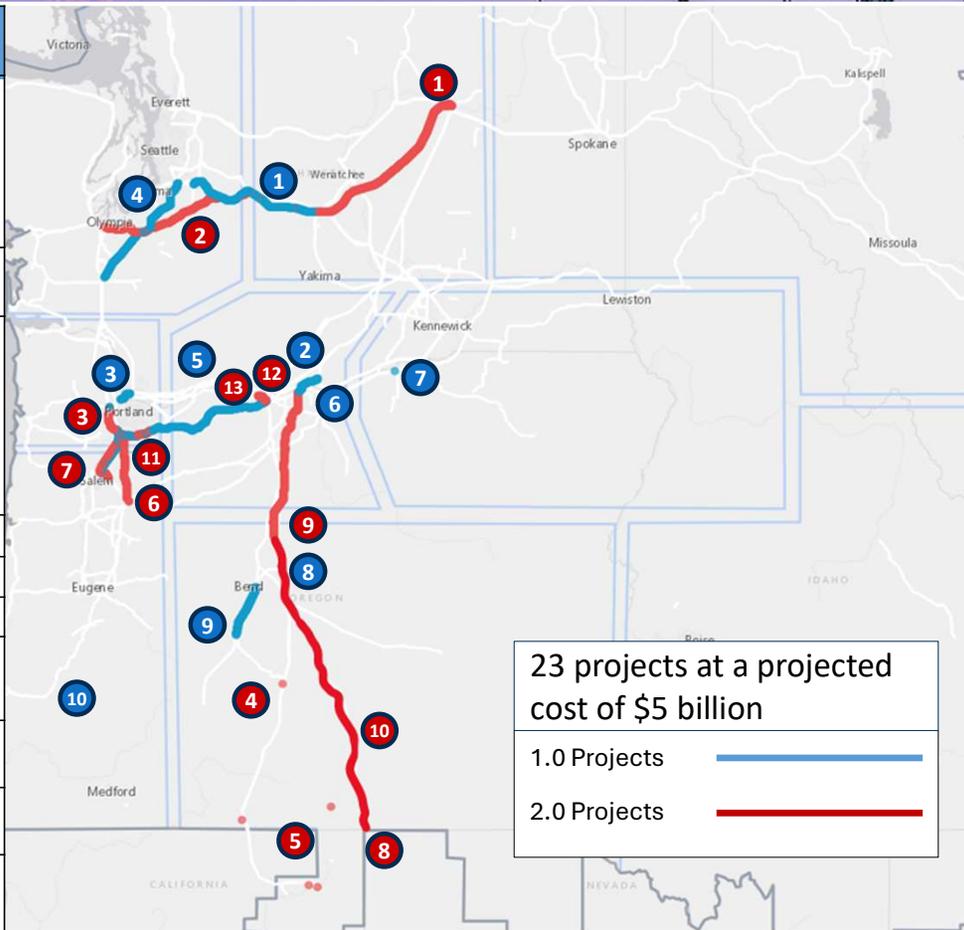
Anchored in customers' own forecasts, for which they are accountable

Accelerate Expansion

Restructure plan, design, and build processes to meet regional urgency

Expansion Projects 1.0 & 2.0

1.0 Projects	
1	Cross Cascades North Upgrades <ul style="list-style-type: none"> Schultz-Raver 500 kV Line Upgrade Paul 500 kV Substation Upgrade Olympia 230 kV Substation Upgrade
2	Big Eddy-Chemawa 230/500 kV Line Upgrade
3	Portland Area Upgrades <ul style="list-style-type: none"> Pearl-Sherwood McLoughlin 230 kV Line Upgrade Keeler-Horizon 230 kV Line Keeler 230/500 kV Transformer Addition
4	Chehalis-Covington 230 kV Line Upgrade
5	Ross-Rivergate 230 kV Line Upgrade
6	Rock Creek-John Day 500 kV Line Upgrade
7	Six Mile Canyon 230/500 kV Substation (New Construction)
8	Bonanza 230/500 kV Substation (New Construction)
9	La Pine-Bonanza 230 kV Line (New Construction)
10	Buckley 500 kV Substation Rebuild



2.0 Projects	
1	Grand Coulee-Columbia-Schultz 500 kV Line Upgrade
2	Schultz-Olympia 500 kV Line Upgrade
3	North of Pearl Upgrades
4	Central Oregon 500 kV Dynamic Reactive Upgrades
5	RATS: Reno-Alturas Reactive Addition
6	Salem Area Upgrades #1 (North of Marion)
7	Salem Area Upgrades #2 (North of Marion)
8	NOB Substation (New Construction)
9	Lower Columbia-Bonanza 500 kV Line (New Construction)
10	Bonanza to NOB 500 kV Line (New Construction)
11	Ostrander-Pearl 500 kV Line Upgrade
12	Big Eddy-Quenett Creek Upgrade
13	Big Eddy-The Dalles Line Rebuild

Sustain Capital Program

- BPA's FY25 expected spend \$422M on sustain as part of its capital program
 - BPA's overall FY25 capital program is \$800 million.
- For FY26-FY28, the forecast per our FY26 SOY and 2025 Asset Plan as follows:
 - FY26: \$464M
 - FY27: \$405M
 - FY28: 455.7M

In Closing

- BPA's Transmission Services is a multi-faceted, highly integrated organization across planning, operations, maintenance and customer-service that keeps the lights on across the Northwest.

QUESTIONS??