

# Summary of Bonneville Power Administration's Planned Reconductoring Projects

## December 27, 2024

Bonneville currently utilizes GETS (Grid Enhancing Technologies) and other advanced technologies after they have gone through rigorous testing, and only if they are the appropriate tool in our multi-tool toolbox. Even though some technologies have been tested more than others and work for parts of the system in the right circumstances, they are not possible to apply at a wholesale level due to the size and scale of Bonneville's transmission system. Bonneville's high-voltage transmission system serves as the backbone of the transmission system for all the utilities in the northwest. Any risk we take is therefore a risk to our customers.

Bonneville has studied several GETS technologies, and one we're continuously studying and starting to implement where feasible is *advanced conducting*—this is considered an Advanced Transmission Technology that gives a good amount of capacity uplift. As Idaho National Labs defines it: "These innovative assets improve on many attributes of traditional conductors, offering increases in capacity, efficiency, and mechanical performance. Critically, advanced conductors can be used to upgrade existing transmission line routes by replacing existing wires on existing transmission structures to increase line performance through a process called reconductoring"<sup>1</sup>. When our studies show that certain line-segments are capacity-constrained, we assess whether advanced conductors are something that we can integrate. Like all tools, they are not something that will be applied across the whole system, however, there are currently many line segments we are in the process of planning to reconductor.

In 2023 and 2024 Bonneville announced over 20 new transmission line and substation projects, totaling over 5 billion in estimated cost (named Evolving Grid 1.0 and 2.0, respectively) that will help improve transmission capacity and reliability throughout the Northwest. The following summarizes the reconductoring projects specifically, with accompanying maps. Bonneville is happy to share more about these projects as requested.

### Reconductor Projects (OR and WA):

- Rock Creek-John Day Upgrade: Upgrade existing Rock Creek – John Day #1 500-kV line. Reconductor 14 miles of line between the Rock Creek Substation (Goldendale, WA) and John Day Substation (Rufus, OR), including a Columbia River crossing. Estimated completion: Early 2029
- Schultz-Raver Reconductor: Proposed upgrade to the existing Schultz-Raver #3 and Schultz-Raver #4 500-kV lines to a higher rated capacity. Reconductor the 77-mile

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<sup>1</sup> [Advanced Conductor Scan Report Summary](#)

lines between BPA's Schultz Substation (Ellensburg, WA) and Raver Substation (Ravensdale, WA). BPA has also proposed adding a new capacitor at Paul Substation (Centralia, WA), and a new Static VAR Compensator at Olympia Substation (Olympia, WA). Estimated completion: Late 2029/Early 2030

- Ross-Rivergate Rebuild: This project is a proposed upgrade of the existing Ross-Rivergate #1 230-kV line. The work would consist of replacing conductor on 7.5 miles of line between BPA's Ross Substation (Vancouver, WA) and PGE's Rivergate Substation (Portland, OR), including a Columbia River crossing. Estimated completion: Late 2027/Early 2028
- Chehalis-Cowlitz Tap Rebuild: Proposed upgrade of a portion of the existing Chehalis-Covington #1 230-kV line. The work would consist of replacing conductor on 35 miles of line between BPA's Chehalis Substation (Chehalis, WA) and Cowlitz Tap (Frederickson, WA). Estimated completion: Late 2027/Early 2028
- North of Marion Upgrade #2 This proposed project would rebuild Pearl – Marion #1 500 kV and replace the 2.5" expanded conductor and would rebuild the Oregon City – Chemawa 115 kV river crossing. The project would also add a second 230/115 kV transformer bank at Chemawa Substation.
- North of Pearl: This proposed project would upgrade transmission capacity in the Portland sub-grid North of Pearl area, would reconductor the existing Pearl-Keeler #1 500 kV line and would leverage an existing corridor to add a second 500 kV line between Pearl and Keeler. The existing Pearl-Sherwood #1 and #2 230 kV lines would be relocated/rebuilt to accommodate Pearl-Keeler #2 500 kV line. The existing section of Keeler-Oregon City #2 115 kV between Sherwood and Oregon City would be repurposed as the new Keeler-Sherwood (PGE) 115 kV Line, terminating into Sherwood. (also listed below in Rebuild)
- Ostrander-Pearl #1 Upgrade: This proposed project would upgrade the Ostrander-Pearl #1 500 kV line and replace the existing 2.5" expanded conductor.

