



Fact Sheet

SEPTEMBER 2023

Tri-Cities Area Reinforcement

Overview

BPA is working to meet growing electrical needs in southeast Washington through a set of projects known collectively as the Tri-Cities Area Reinforcement. This work includes proposals for four major transmission lines and substation projects as well as more than 10 smaller projects, some of which are already underway. Combined, these reinforcements support the rapid growth in the area and mitigate operational and maintenance constraints that could lead to unplanned power interruptions if not addressed.

The major projects include building a new substation and line that would provide another source of transmission into the area, adding to the three

substations (Sacajawea, McNary and Midway) that currently connect BPA's main grid to Tri-Cities area utilities. Smaller projects include work on fiber optic cable and in existing substations.

The combined effects of the projects would allow for additional load and mitigate bottlenecks in the Richland area that, if unaddressed, would limit new load additions in the area and could lead to unplanned power interruptions.

The need for additional transmission capacity

The electric grid in the Tri-Cities area has become increasingly constrained, particularly in the summer months when more energy is needed for irrigation and agricultural refrigeration, combined with industrial power demands and growth of residential air conditioning.

Local energy use peaked during a heat wave in 2017, nearly triggering load shedding, or voluntary power shutoffs, which would have caused outages for some customers served by utilities in the area. The constraints



led BPA to find alternatives to load shedding, such as barring maintenance outages during times of peak energy demand and coordinating flexible spill arrangements at nearby Ice Harbor Dam to maximize power generation. However, as electricity use in the area increases, these measures become less effective to manage and protect the system.

In addition, outage windows have shortened due to increased power needs during the summer months and harsh weather conditions in the winter, making it more difficult to schedule maintenance and sustain work.

Major projects

The four major Tri-Cities Area Reinforcement projects are:

MCNARY-PATERSON TAP 115-KV LINE

Description: This project would add a new 115-kilovolt circuit breaker at the McNary Substation and adds approximately 2 miles of new 115-kV line from McNary Substation to south Benton County.

Deferring this work can weaken the system and increase the chance for power interruptions related to failing equipment.

BPA forecasts area load growth will increase by about 1.5% annually, not taking into account new large load additions that would be associated with industrial development. BPA has determined the Tri-Cities Area Reinforcement projects are necessary to ensure reliability and support the anticipated growth over a 10-year planning horizon or later. Significant load additions may require additional reinforcements.

Purpose: The new 115-kV line resolves low-voltage issues and provides through flow relief.

Estimated cost: \$5.2 million

Expected energization: Summer 2024

RED MOUNTAIN–HORN RAPIDS 115-KV LINE RECONDUCTOR

Description: This project would replace the conductor (wires) along the Red Mountain–Horn Rapids 115-kV section of line to mitigate a bottleneck and maintain reliable service.

Purpose: Resolves line overload issues for conditions where one line outage could cause another line to overload.

Estimated cost: \$3.6 million

Expected energization: Summer 2025

RICHLAND-STEVENS DRIVE 115-KV LINE

Description: This project would replace the single-circuit wood pole line with a new steel 115-kV double-circuit trans-mission line from Stevens Drive Substation to Richland Substation on the existing White Bluffs–Richland No. 1 line. New bays will be installed at Richland Substation and two substations owned by the City of Richland.

Purpose: Resolves line overload issues for conditions where one line outage could cause another line to overload.

Estimated cost: \$12.5 million

Expected energization: Winter 2027

SOUTH TRI-CITIES REINFORCEMENT (WEBBER CANYON SUBSTATION)

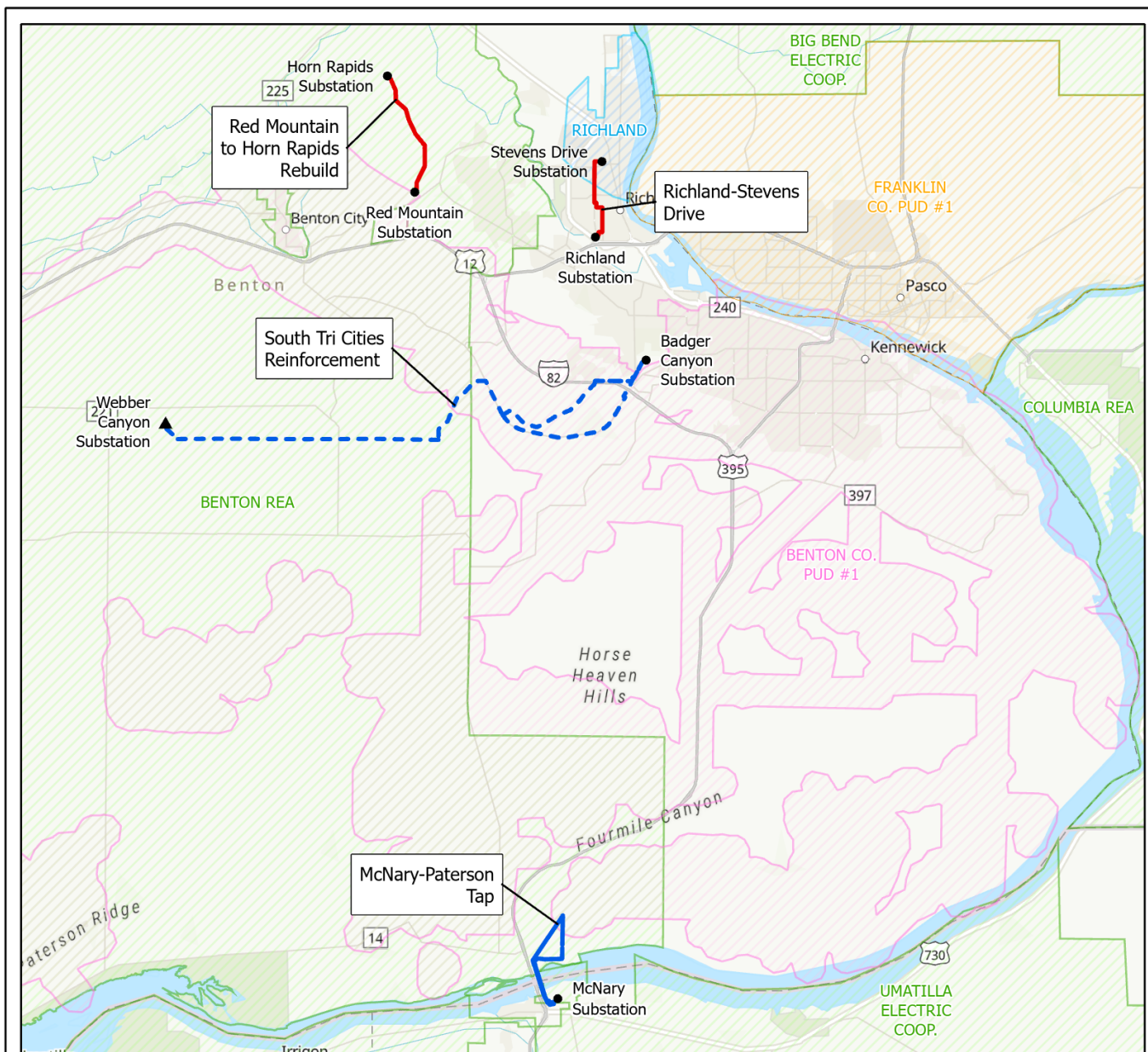
Description: This project would add the new Webber Canyon Substation and line that ties the Tri-Cities region into the 500-kV grid. The plan of service loops the Ashe-Marion 500-kV line into the new substation. A new Webber Canyon 500/115-kV transformer then connects 18 miles of new 115-kV line to Badger Canyon Substation.

Purpose: This project addresses short-term operational and maintenance needs as well as long-term needs for reliability and load growth by providing another source to the area. The project also allows interconnection of a

large renewable energy project and its ability to send energy across BPA's system. This is separate from the 18-mile line connecting the new substation to add capacity to accommodate growth in the Tri-Cities area. The new terminal for the renewable project will be located at the substation where the new line terminates, providing efficiency and cost-savings.

Estimated cost: \$96.7 million

Expected energization: Spring 2027

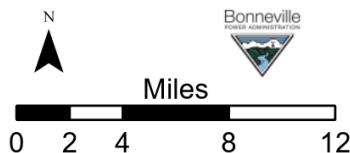


Tri-Cities Area Reinforcement

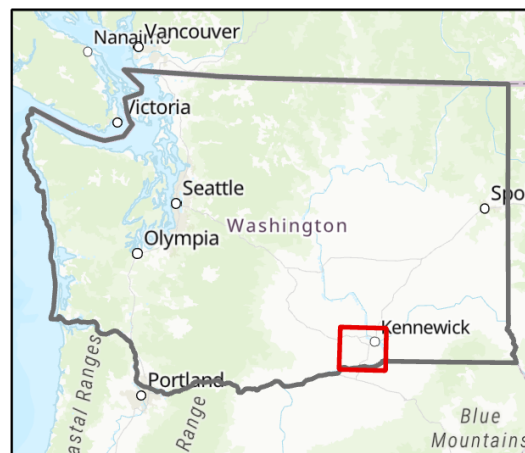
- Existing Substation
- ▲ Planned Substation
- Transmission Line Rebuild
- Proposed Transmission Line
- - - Proposed Transmission Line Route Options

PUBLIC UTILITY TERRITORIES

- Cooperative
- Municipal
- Benton Co. PUD #1
- Franklin Co. PUD #1



Pre-decisional



Map Location

Date: 6/12/2023