BPA Attachment K Planning Process
Planning Meeting II

November 18, 2021
Agenda

• Introductions
• Attachment K Planning Cycle – 2021
• Attachment K Website
• Economic Study Requests
• Draft Plans of Service for Transmission
• Project Updates
  – Significant Energized Projects
  – Significant Planned Projects
• Next Steps
Attachment K Planning Cycle - 2021

• **Customer Meeting I**  
  – 2020 Transmission Plan  
  – 2021 Planning Assumptions, Criteria, Methodology  
  – Economic Study Requests  
  **April 30, 2021**

• **Posting I**  
  – Summary of 2021 System Assessment Results and Conceptual Solutions  
  **Summer 2021**

• **Customer Meeting II**  
  – Draft Plans of Service and Cost  
  **November 18, 2021**

• **Posting II**  
  – 2021 BPA Transmission Plan  
  **December 2021**
Attachment K Planning Process

Transmission Services conducts system planning meetings in accordance with its Open Access Transmission Tariff Attachment K. Below are links to past and present information on the Attachment K Planning Process:

- 2021 Planning Cycle
- 2020 Planning Cycle
- 2019 Planning Cycle

Email Information

To request participation in the Planning Process, send questions, comments, or request copies of reports, complete the Planning Process Participation Request.

To request an Economic Study, fill out the Economic Study Request Form.

Related Links

- Open Access Transmission Tariff
- Interconnection
- Business Practices
Navigating BPA’s Attachment K Planning Process Website

https://www.bpa.gov/transmission/CustomerInvolvement/AttachmentK/Pages/2021-Planning-Cycle.aspx

2021 Planning Cycle

Transmission Services conducts system planning meetings in accordance with its Open Access Transmission Tariff Attachment K. These meetings provide customers and interested parties the opportunity to discuss and provide input to the studies and development of the plans of service.

This page provides information about the Transmission Services Attachment K process including notifications of meetings, results of planning studies, plans of service and other reference information. To request participation in the Planning Process, complete and email the Participation Request form.

Meetings
April 30, 2021
Agenda

Economic Studies
To request an Economic Study, fill out the Economic Study Request Form.

Reference Information
2021 System Assessment Assumptions and Methodology

Related Links
FERC Order 1000
FERC Order 890
NERC Reliability Standards
Open Access Transmission Tariff (includes Attachment K)
Planning Studies
WEST Reliability Criteria
BPA’s Attachment K Planning Process Website

• **E-mail Information**
  – [PlanningParticipationRequest@bpa.gov](mailto:PlanningParticipationRequest@bpa.gov)
  – [PlanningEconomicStudyRequest@bpa.gov](mailto:PlanningEconomicStudyRequest@bpa.gov)

• **Meetings**
  – Meeting announcements, agendas, etc.

• **Economic Studies**
  – Requesting and Tracking Economic Studies

• **Reference Information**
  – Materials associated with the Planning Process, participation forms, etc.

• **Related Links**
  – Links to information related to the Planning Process
Economic Study Requests

• What is an Economic Study?
  – Studies may be requested to address congestion issues or the integration of new resources and loads.

• How are Requests for Economic Studies submitted?
  PlanningEconomicStudyRequest@bpa.gov

• Requests may be submitted any time…
  Requests submitted after October 31 will be considered in the next prioritization process.

• BPA will complete up to two Economic Studies per year at its own expense.

• There were no Economic Study Requests received during the study cycle which closed on October 31, 2021.
BPA is providing contracted Transmission Planning services for the following NT customers who have Coordinated Functional Registrations (CFR) with NERC.

- Klickitat County PUD
- Lewis County PUD
- Northern Wasco County PUD
- Pend Oreille PUD
- Umatilla Electric Cooperative
- Whatcom PUD
- Lower Valley Energy

New for 2022 SA
Most of the draft plans of service on the following slides, have been developed to maintain compliance with the applicable planning reliability standards and criteria.

The following standards and criteria were applied in development of the proposed corrective action plans:

- **NERC Reliability Standard TPL-001-4**
  (North American Electric Reliability Corporation)

- **WECC Reliability Criteria TPL-001-WECC-CRT-3.2**
  (Western Electricity Coordinating Council)

The remaining plans of service provide needed equipment upgrades or improve Operational or Maintenance Flexibility.
BPA’s 2021 System Assessment for the load areas was based on current and qualified past studies from 2020 as allowed by the NERC TPL Reliability Standard.

The transmission system was divided into 27 load service areas and 18 paths/interties.

There were two corrective action plans (plans of service) identified from the 2021 System Assessment.

Several of the projects identified from previous System Assessments have updated schedules.

These updates are shown on the following slides. **Bold text** indicates a schedule or status change compared with last year’s update.
# Draft Plans of Service
from the 2021 System Assessment

## Portland Area

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keeler 230 kV Bus Sectionalizing Breaker Addition</td>
<td>2026</td>
</tr>
<tr>
<td>- Adds a bus sectionalizing breaker at Keeler to split the bus into 3 sections.</td>
<td></td>
</tr>
</tbody>
</table>

## Fossil/DeMoss Area

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condon Wind RAS</td>
<td>2022</td>
</tr>
<tr>
<td>- Modifications to amount of generation dropped by existing RAS</td>
<td></td>
</tr>
</tbody>
</table>
## Project Updates

### Seattle/Tacoma Area

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tacoma 230 kV Bus Tie and Auxiliary Bus Section</td>
<td>2021</td>
</tr>
<tr>
<td>Disconnect Switch (O&amp;M Flexibility)</td>
<td></td>
</tr>
<tr>
<td>Raver 500/230 kV Transformer Addition</td>
<td>Completed</td>
</tr>
<tr>
<td>Tacoma 230 kV Series Bus Section Breaker Addition</td>
<td>2021</td>
</tr>
<tr>
<td>Monroe-Novelty 230 kV Line Upgrade</td>
<td>2023</td>
</tr>
</tbody>
</table>

### Southwest Washington Coast

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holcomb-Naselle 115 kV Line Upgrade</td>
<td>Completed</td>
</tr>
</tbody>
</table>
Project Updates

Portland Area

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlton 230 kV and 115 kV Breaker Additions (O&amp;M Flexibility)</td>
<td>2022</td>
</tr>
<tr>
<td>Troutdale 230 kV Series Bus Sectionalizing Breaker Addition</td>
<td>2025</td>
</tr>
<tr>
<td>Pearl 230 kV Series Bus Sectionalizing Breaker Addition</td>
<td>2029</td>
</tr>
<tr>
<td>Forest Grove-McMinnville 115kV Line Upgrade (O&amp;M Flexibility)</td>
<td>2023</td>
</tr>
</tbody>
</table>

Eugene Area

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alvey 115 kV Bus Section Breaker Addition (O&amp;M Flexibility)</td>
<td>2022</td>
</tr>
<tr>
<td>Alvey-Dillard Tap 115 kV Line Rebuild (O&amp;M Flexibility)</td>
<td>2023</td>
</tr>
</tbody>
</table>
## Project Updates

### Olympic Peninsula Area

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitsap 115 kV Shunt Capacitor Relocation</td>
<td>2023</td>
</tr>
<tr>
<td>Shelton-Fairmount 115 kV No.1 Line Upgrade</td>
<td>2022</td>
</tr>
<tr>
<td>Shelton-Fairmount 115 kV No.2 Line Upgrade</td>
<td>Completed</td>
</tr>
</tbody>
</table>

### Longview Area

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longview 230/115 kV Transformer Bank Addition</td>
<td>Completed</td>
</tr>
</tbody>
</table>

### Mid-Columbia Area

<table>
<thead>
<tr>
<th>Project</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia-Rapids 230 kV Line Construction</td>
<td>2023</td>
</tr>
<tr>
<td>Columbia 230 kV Bus Tie and Bus Section Breaker Addition (O&amp;M Flexibility)</td>
<td>2023</td>
</tr>
</tbody>
</table>
Project Updates

Walla Walla Area

Project
Tucannon River 115 kV Shunt Reactor (15 Mvar) Addition

Schedule 2025

Umatilla Area

Project
Jones Canyon 230 kV Shunt Reactor (40 Mvar) Addition

Schedule 2025

Centralia / Chehalis

Project
Silver Creek 230 kV Bus Section Breaker Addition

Schedule 2023
Project Updates

Southeast Idaho/Northwest Wyoming Area

**Project**
Spar Canyon 230 kV Reactor Addition (O&M Flexibility)  
**Schedule**  
2023

North Idaho Area

**Project**
Troy 115 kV Shunt Capacitor Addition  
**Schedule**  
2023
Project Updates

South Oregon Coast Area

Project                      | Schedule
Fairview 115 kV Shunt Reactor Addition | 2022
Toledo 230 kV and 69 kV Bus Tie Additions (O&M Flexibility) | 2023
Wendson 115 kV Bus Tie Breaker Addition (O&M Flexibility) | 2023

Okanogan

Project                      | Schedule
Grand Coulee-Foster Creek 115 kV Line Upgrade | 2022
Project Updates

Raver to Paul

Project
St. Clair-South Tacoma 230 kV Disconnect Switch Upgrade

Schedule
2022

Puget Sound to Canada Path

Project
Monroe 500 kV Line Re-terminations

Schedule
Completed

West of Cascades North (WOCN) Path

Project
Schultz-Raver 500 kV No. 3 and No. 4 Series Capacitors

Schedule
Beyond 2029
Significant **Energized Projects**

**Longview 230/115 kV Transformer Addition**

**Description**
This project added an additional 230/115 kV transformer at Longview substation.

**Energization**
The project was energized in August 2021.

**Project Cost**
The project cost was $11,259,000
Significant **Energized Projects**

**Holcomb-Naselle 115 kV Rebuild**

**Description**
This project re-conducted the entire Holcomb-Naselle 115 kV line in Southwest Washington Coast to higher-rated conductor.

**Energization**
The project was energized in November 2020.

**Project Cost**
The project cost was $13,100,000.
Significant Energized Projects

Monroe 500 kV Line Re-terminations

Description
This project increases reliability and operational flexibility in the Puget Sound area. This project adds a new 500 kV bay at Monroe Substation and re-terminates the following 500 kV lines at Monroe: the Chief Jo-Monroe line into bay 5 and the Custer-Monroe No.2 line into bay 4. This essentially reconfigures Monroe into a double-breaker, double-bus layout for improved reliability.

Energization
Completed June 2021

Project Cost
The project cost was $10,800,000
Significant Planned Projects

Schultz-Wautoma Series Capacitors

Description
This project is necessary to increase South of Allston (SOA) available transfer capability and improve operations and maintenance flexibility for SOA and I-5 corridor paths. The project will add a series capacitor on the Schultz-Wautoma 500 kV line at Wautoma Substation.

Expected Energization
2023

Estimated Cost
$30,000,000
Significant Planned Projects

Schultz-Wautoma Series Capacitors
Significant Planned Projects

Tri-Cities Load Area Projects

Description

The following projects are planned for the Tri-Cities Load Area:

- McNary-Paterson Tap 115 kV Line
- Richland-Stevens Drive 115 kV Line
- South Tri-Cities Reinforcement

McNary-Paterson Tap – This project adds a new 115 kV bay at McNary and a parallel 115 kV line from McNary to Plymouth Tap (i.e. Paterson Tap; 2 miles).

Richland-Stevens Drive – This project constructs a double-circuit 115 kV line from Richland to Stevens Drive switching station (3 miles).

South Tri-Cities Reinforcement - This project constructs a 500 kV substation on the Ashe-Marion #2 500 kV line with a 500/115 kV transformer, and a 115 kV line to Badger Canyon (17 miles).
Significant Planned Projects

Tri-Cities Load Area Projects – continued

Estimated Cost and Schedule

McNary-Paterson Tap is an approved project in design. The estimated project cost and schedule will be refined as the project progresses through design.

Richland-Stevens Drive is an approved project in design. The estimated project cost and schedule will be refined as the project progresses through design.

South Tri-Cities Reinforcement is presently in the scoping phase. The estimated project cost and schedule will be refined as the project progresses through scoping.
Significant Planned Projects
South Tri-Cities Reinforcement PRD

Ashe 500 kV

Marion 500 kV

Slatt 500 kV
Significant Planned Projects
South Tri-Cities Reinforcement (sheet 2)
Significant Planned Projects

Buckley GIS Replacement

Description
This project is required to replace the Buckley 500 kV Gas Insulated Substation (GIS) with an Air Insulated Substation (AIS). The Buckley GIS has outlived its useful life and will run out of the necessary spare parts to continue its operation in the next 5 years. The long range plan for Buckley is to develop an AIS Substation with three 500 kV bays in arranged in a double breaker double bus configuration for the Buckley-Marion, Slatt-Buckley, and Buckley-Grizzly 500 kV lines.

Estimated Cost and Schedule
This project is under development and will be completed in the longer term planning horizon. The project is presently in the scoping phase. The estimated project cost and schedule will be refined as the project progresses through scoping.
Significant Planned Projects

Buckley GIS Replacement
Next Steps

• **Update the BPA Transmission Plan** based on the 2021 planning cycle and post by the end of December, 2021.

• **Jan.1, 2022 – Begin 2022 Attachment K Planning Cycle**

*Sign up to participate in future meetings or receive additional information by:*

*Filling out the Participation Request form on BPA’s Planning Process website and sending it via e-mail to:*

*PlanningParticipationRequest@bpa.gov*