

# **BPA Attachment K Planning Process Planning Meeting IV**

December 12, 2012



# Agenda

- Introductions
- Attachment K Planning Cycle
- Attachment K Business Practice Update
- Draft Plans of Service for Transmission
  - Load Areas
  - Interties and Paths
- FERC Order 1000 Update
- Next Steps



# Attachment K Planning Cycle 2010-2012

## Customer Meeting I

Feb. 3, 2011

- BPA Plan
- Study Assumptions, Criteria, Methodology
- Economic Study Results

## Customer Meeting II

Nov. 21, 2011

- System Screening Study Results
- Economic Study Results

## Customer Meeting III

June 25, 2012

- Conceptual solutions for Reliability Needs
- Economic Study Results.

## Customer Meeting IV

Dec. 12, 2012

- Draft Plans of Service



# Business Practice Update

- The Business Practice for Attachment K covers the following topics:
  - Information and Data Exchange Process
  - Critical Energy Infrastructure Information (CEII) and Confidential Information
  - Economic Study Process
- BPA's Attachment K Business Practice completed the stakeholder review process and is now finalized with an effective date of 11/30/12.



# Draft Plans of Service

## (2010-2012 Planning Cycle)

- The following draft plans of service have been developed to maintain compliance with the applicable NERC and WECC planning reliability standards and criteria
- The following standards and criteria were applied in development of the proposed mitigation plans:
  - NERC TPL Reliability Standards  
[North American Electric Reliability Corporation]
  - WECC Reliability Criteria  
[Western Electricity Coordinating Council]



## Seattle Area

### Monroe 500 kV Shunt Capacitor Addition

- Estimated Cost: \$5,600,000
- Proposed Energization: 2014
- This project adds a 500 kV shunt capacitor (1 group of 319 MVAR) at Monroe Substation.
- This project is required to provide voltage support in the Puget Sound area.

### Raver 500/230 kV Transformer Addition

- Estimated Cost: \$45,000,000
- Proposed Energization: 2016
- This project adds a 1300 MVA, 500/230 kV transformer at Raver Substation.
- This project is required to support load growth in the Puget Sound area.



## Seattle Area

### Paul 500 kV Shunt Reactor Addition

- Estimated Cost: \$6,000,000
- Proposed Energization: 2016
- This project adds a 500 kV (180 MVAR) shunt reactor at Paul Substation.
- This project is required to maintain voltage schedules during light load conditions.



# Portland Area

## Ostrander 500 kV Breaker Addition

- Estimated Cost: \$2,400,000
- Proposed Energization: 2014
- This project adds a new 500 kV circuit breaker at Ostrander Substation.
- This will improve system reliability and load service to the Portland area.

## Pearl 500 kV Upgrades

- Estimated Cost: \$1,700,000
- Proposed Energization: 2016
- This project adds a 500 kV circuit breaker and re-terminates the Pearl 500/230 kV transformer #2 into the new bay position.
- This will improve system reliability for the South of Allston path.



## Portland Area

### Split Pearl-Sherwood 230 kV Lines

- Estimated Cost: \$1,400,000
- Proposed Energization: 2017
- This project splits the double circuit Pearl-Sherwood 230 kV lines #1 and #2 and develops the necessary bay positions at Pearl and Sherwood to terminate them separately.
- This project is required to maintain reliable load service to the Portland area.

### Split McLoughlin-Pearl-Sherwood 230 kV Lines

- Estimated Cost: \$1,300,000
- Proposed Energization: 2017
- This project splits the double circuit portion of the McLoughlin-Pearl-Sherwood 230 kV line and develops the necessary bay positions at Pearl and Sherwood to terminate them separately.
- This project is required to maintain reliable load service to the Portland area.



## Portland Area

### Pearl 230 kV Bus Sectionalizing Breaker

- Estimated Cost: \$1,000,000
- Proposed Energization: 2017
- This project adds a 230 kV bus sectionalizing breaker at Pearl Substation.
- This project is required to maintain reliable load service to the Portland area.

### Troutdale 230 kV Bus Sectionalizing Breaker

- Estimated Cost: \$1,000,000
- Proposed Energization: 2018
- This project adds a 230 kV bus sectionalizing breaker at Troutdale Substation.
- This project is required to maintain reliable load service to the Portland area.



# Tacoma/Olympia Area

## Tacoma Bus Sectionalizing Breaker

- Estimated Cost: \$1,000,000
- Proposed Energization: 2016
- This project adds a 230 kV series bus sectionalizing breaker at Tacoma Substation.
- This project is required to maintain reliable load service to the Tacoma area.



# Vancouver Area

## North Bonneville-Troutdale 230 kV No.2 Line Re-termination

- Estimated Cost: \$2,100,000
- Proposed Energization: 2015
- This project adds a 230 kV bay position and re-terminates the North Bonneville-Troutdale 230 kV #2 line to the east bus section at North Bonneville Substation.
- This project is required to support load service to the Vancouver area.



# Salem/Albany/Eugene Area

## Santiam-Chemawa 230 kV Line Upgrade

- Estimated Cost: \$900,000
- Proposed Energization: 2016
- This project upgrades the Santiam-Chemawa 230 kV line to 100 degrees C maximum operating temperature.
- This project is required to maintain reliable load service to the Salem/Albany area.



# Olympic Peninsula

## North of Fairmount Back-tripping Safety Net Scheme

- Estimated Cost: \$900,000
- Proposed Energization: 2013
- This project adds line loss logic and load tripping at Fairmount Substation.
- This project is required to improve local area voltage stability.

## Sappho 69 kV Shunt Capacitor Addition

- Estimated Cost: \$600,000
- Proposed Energization: 2017
- This project adds 69 kV shunt capacitors (9.6 MVAR) at Sappho Substation.
- This project is required to maintain reliable load service to the local area.



## Tri-Cities Area

### White Bluffs 115 kV Shunt Capacitor Addition

- Estimated Cost: \$2,000,000
- Proposed Energization: 2013
- This project adds 115 kV shunt capacitors (39.2 MVAR) at White Bluffs Substation.
- This project is required to maintain voltage schedule requirements at Ashe Substation for the Columbia Generating Station.

### McNary 230 kV Shunt Capacitor Addition

- Estimated Cost: \$5,700,000
- Proposed Energization: 2013
- This project adds 230 kV shunt capacitors (2 groups of 150 MVAR) at McNary Substation.
- This project is required to provide dynamic reactive margin at the McNary Powerhouse.



## Tri-Cities Area

### McNary 500/230 kV Transformer No.2 Addition

- Estimated Cost: \$18,500,000
- Proposed Energization: 2016
- This project adds a 1428 MVA, 500/230 kV transformer and a 230 kV bus sectionalizing breaker at McNary Substation.
- This project is required to provide reliable generation integration in the McNary area.



# Longview Area

## Longview-Lexington 230 kV Line Re-termination

- Estimated Cost: \$2,000,000
- Proposed Energization: 2015
- This project re-terminates the Longview-Lexington 230 kV line into the Longview 230 kV Annex Substation.
- This project is required to maintain reliable load service to the Longview area.



## Mid-Columbia Area

### Northern Mid-Columbia Area Project

- Estimated Cost: \$5,900,000
- Proposed Energization: 2015 (dependent on participant agreements)
- This is a joint project between BPA, Grant PUD, Douglas PUD, and Chelan PUD. This project will result in a new Columbia-Rapids 230 kV line. The estimated cost is BPA's share of the total project cost.
- This project is required to maintain reliable load service to the Northern Mid-Columbia area.

### Columbia 230 kV Bus Sectionalizing Breaker

- Estimated Cost: \$1,000,000
- Proposed Energization: 2016
- This project adds a new 230 kV bus tie breaker and 230 kV bus sectionalizing breaker at Columbia Substation.
- This project is will improve operational and maintenance flexibility at Columbia Substation.



## Central Oregon Area

### La Pine 230 kV Shunt Reactor

- Estimated Cost: \$2,000,000
- Proposed Energization: 2015
- This project adds a 230 kV shunt reactor (40 MVAR) at La Pine Substation.
- This project is required to maintain voltage schedules in the Central Oregon area during light load conditions.



# Spokane Area

## Bell Bus Sectionalizing Breaker

- Estimated Cost: \$1,000,000
- Proposed Energization: 2015/16
- This project adds a 230 kV bus sectionalizing breaker at Bell Substation.
- This project is required to maintain reliable load service in the Spokane area.



# Northwest Montana Area

(aka Flathead Valley)

## Kalispell 115 kV Shunt Capacitor Addition

- Estimated Cost: \$3,100,000
- Proposed Energization: 2014
- This project adds 115 kV shunt capacitors (2 groups of 16.2 MVAR) at Kalispell Substation.
- This project is required to provide voltage support in the Flathead Valley area.



## Walla Walla Area

### Tucannon 115 kV Shunt Capacitor Addition

- Estimated Cost: \$2,000,000
- Proposed Energization: 2013
- This project adds 115 kV shunt capacitors (2 groups of 6.5 MVAR) at Tucannon Substation.
- This project is required to provide voltage support in the Walla Walla area.

### Walla Walla-Pendleton 69 kV Line Upgrade

- Estimated Cost: \$200,000
- Proposed Energization: 2014
- This project upgrades the Walla Walla-Pendleton 69 kV #1 line.
- This project increases capacity of the line to support local generation in the area.



# West of Cascades North

## Schultz-Raver Series Capacitors

- Estimated Cost: \$35,000,000
- Proposed Energization: 2017/18
- This adds 500 kV series capacitors at Schultz Substation on the Schultz-Raver 500 kV lines #3 and #4.
- This project is required to increase capacity on the West of Cascades North path.



## Other Projects

### Big Eddy 230/115 kV Transformer No.1 Replacement

- This project replaces the existing transformer with a larger bank rated 300 MVA – proposed energization is 2015.

### Pacific DC Intertie Upgrade

- This project replaces the converters at the Celilo HVDC terminal and re-conductors a section of the DC transmission line - proposed energization is 2016.

### John Day-Big Eddy 500 kV Line No.1 Re-conductor

- This project re-conductors the John Day-Big Eddy 500 kV line #1 – proposed energization is 2016/17.



# FERC Order 1000

FERC Order 1000 provides requirements for Transmission Planning and Cost Allocation

## Regional Compliance:

- Oct. 2012 – ColumbiaGrid filed a modified PEFA (Planning and Expansion Functional Agreement) to comply with FERC Order 1000.
- Oct. 2012 – BPA filed a modified Attachment K of the OATT as part of the compliance filing for FERC Order 1000.
- The changes to BPA's Attachment K include
  - Incorporating transmission needs driven by Public Policy Obligations
  - Incorporating a process for Order 1000 cost allocation
  - Shift from a biennial to an annual Attachment K Planning Process



# FERC Order 1000

## Interregional Compliance:

- Currently, BPA is participating in the development of the Interregional Planning and Cost Allocation process to comply with FERC Order 1000.
- There are four Planning Regions involved in this effort:
  - Columbia Grid
  - West Connect
  - Northern Tier Transmission Group (NTTG)
  - California ISO (Independent System Operator)
- Interregional Compliance filing for FERC Order 1000 is due April 2013.



# BPA's Attachment K Planning Process Website

- **Meetings**
  - Meeting announcements, agendas, etc.
- **E-mail Information**
  - [PlanningParticipationRequest@bpa.gov](mailto:PlanningParticipationRequest@bpa.gov)
  - [PlanningEconomicStudyRequest@bpa.gov](mailto:PlanningEconomicStudyRequest@bpa.gov)
- **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



## Next Steps

- Update the BPA Plan from 2010-2012 planning cycle
- Update data, assumptions, criteria and methodologies to be used in the next planning cycle (2013) and post.

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](mailto:PlanningParticipationRequest@bpa.gov)

