

BPA Attachment K Planning Process

Planning Meeting I

April 28, 2015



Agenda

- Introductions
- BPA's Attachment K Planning Cycle – 2015
- BPA's Attachment K Website – 2015
- Economic Study Requests
- Planning Assumptions, Methodology, and Criteria
- 2014 BPA Plan
- Next Steps



Attachment K Planning Cycle 2015

- **Customer Meeting I** **April 28, 2015**
 - **2014 BPA Plan**
 - **Planning Assumptions, Methodology, Criteria**
 - **Economic Study Requests**
- Posting I Summer 2015
 - Summary of System Assessment Results and Conceptual Solutions
- Customer Meeting II Fall 2015
 - Draft Plans of Service and Cost
- Posting II End of Year 2015
 - Draft BPA Plan for 2015



BPA's Attachment K Planning Process Website

<http://www.bpa.gov/transmission/AttachmentK/Pages/default.aspx>



[bpa.gov/transmission](http://www.bpa.gov/transmission)

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Ancillary and Control Area Services (ACS) Practices Forum

Attachment K

[2014 Planning Cycle](#)

[2013 Planning Cycle](#)

 [2015 Planning Cycle](#)

Commercial Business Process Improvement (CBPI)

Customer Forum

Energy Imbalance Market

Generator Interconnection Reform Implementation

Network Integration Transmission Service (NT Service)

Network Open Season (NOS)

PTSA Reform

Redirects

Short-Term Competition

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:

- [2015 Planning Cycle](#)
- [2014 Planning Cycle](#)
- [2013 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](#)
- [Proposed Tariff Changes - Attachment K](#)



BPA's 2015 Attachment K Planning Process Website

<http://www.bpa.gov/transmission/CustomerInvolvement/AttachmentK/Pages/2015-Planning-Cycle.aspx>



- Ancillary and Control Area Services (ACS) Practices Forum
- Attachment K**
 - 2014 Planning Cycle
 - 2013 Planning Cycle
 - 2015 Planning Cycle**
- Commercial Business Process Improvement (CBPI)
- Customer Forum
- Energy Imbalance Market
- Generator Interconnection Reform Implementation
- Network Integration Transmission Service (NT Service)
- Network Open Season (NOS)
- PTSA Reform
- Redirects
- Short-Term Competition
- Southeast Idaho Load Service
- Transmission Commercial Project Integration

2015 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. Beginning in 2014, the Attachment K Planning cycle shifts from a biennial to an annual cycle.

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 28, 2015

[Agenda](#)

Economic Studies

To request an Economic Study, fill out the [Economic Study Request Form](#).

Reference Information

[Requesting a System Assessment Assumptions & Methodology](#)

Related Links

- [FERC Order 1000](#)
- [FERC Order 890](#)
- [NERC Reliability Standards](#)
- [Open Access Transmission Tariff \(Includes Attachment K\)](#)
- [Planning Studies](#)
- [WECC Reliability Criteria](#)
- [Proposed Tariff Changes - Attachment K](#)
- [Attachment K Transmission Planning Process Business Practice](#)



BPA's Attachment K Planning Process Website

- Meetings
 - Meeting announcements, agendas, etc.
- Reference Materials
 - Materials associated with the Planning Process, participation forms, etc.
- Email Information
 - PlanningParticipationRequest@bpa.gov
 - PlanningEconomicStudyRequest@bpa.gov
- Economic Studies
 - Requesting and Tracking Economic Studies
- Related Information
 - 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 expense
- There were no Economic Study Requests received during the annual cycle ending on 10/31/2014



Planning Assumptions

Base Cases

- Loads in the Northwest Area
 - Utilize peak load forecasts for 10 years out, updated annually, and off-peak load forecasts for the near-term planning horizon.
 - Peak load forecasts for both winter and summer seasons.
 - Provided by Customers for the IOUs and larger utilities (approximately 75-80%)
 - Developed by BPA Agency Load Forecasting group if not supplied by customers (approximately 20-25%)
- Resources
 - Model existing generating resources and selected future resources proposed to be online, if needed to meet the forecast loads within the 10 year horizon.



Planning Assumptions (continued)

- Update Northwest Area database
 - Update seasonal peak and off-peak load forecasts
 - Update network topology
 - Model future resources, network expansion projects, and firm transmission obligations
- Sensitivity Cases

Other patterns and conditions may be developed as sensitivities based on:

- Expected transfers
- Expected in-service dates of new or modified Transmission Facilities
- Reactive resource capability
- Generation additions, retirements, or other dispatch scenarios
- Controllable loads and Demand Side Management
- Duration or timing of known Transmission outages
- Real and reactive forecasted load
- Or other system conditions unique to certain geographical areas



Planning Methodology

- System Assessment
 - Check network topology and load forecast / load growth assumptions for each area of interest.
 - Modify base cases to stress the study area and benchmark with historical data.
 - May also develop sensitivity cases for worst case generation or transfer patterns.
 - Perform steady state power flow simulation of all single contingencies and credible common mode outage scenarios.
 - Model RAS as required.
 - Study a large selection of single and multiple contingencies to evaluate voltage stability and transient stability performance.



Planning Methodology (continued)

- Identify Potential Problems

- Compare System performance with NERC and WECC Reliability Standards to determine if there are potential system performance deficiencies.
- Identify deficient areas for follow up and possible corrective action plans.
- Problems may include:
 - Steady State - Thermal overloads or Under/Over Voltages
 - Stability
 - Insufficient reactive margin (voltage stability)
 - Large voltage or frequency deviations (transient stability)

- Develop Alternative Conceptual Solutions

- Solutions to mitigate potential system performance deficiencies may include transmission expansion projects, facility upgrades, and/or non-wires solutions (e.g. energy efficiency, distributed generation, redispatch, or demand management).



Planning Methodology (continued)

- Cost Estimates for Alternatives
 - Preliminary cost estimates are developed for each alternative
 - Preliminary estimates are used for comparing cost effectiveness of the solutions

- Develop Plan of Service for Preferred Alternative
 - Establish project team
 - Draft Project Requirements Diagram (PRD) and circulate for comments
 - Finalize the plan of service and PRD
 - Update and refine cost estimates
 - Develop the Business Case and Request capital funding for project



Planning Criteria

Standards and Criteria used for Planning:

- NERC and WECC Reliability Planning Standards
 - NERC [North American Electric Reliability Corporation] – TPL-001, 002, 003, 004; 2015 System Assessments will take the new TPL-001-4 standard into consideration
 - WECC [Western Electricity Coordinating Council] – Regional Business Practice



2014 BPA Plan

- BPA's Plans for Capital Expansion Projects
- Spans the 10 year horizon from 2014-2024
- Projects categorized by
 - Load Service Areas
 - Transfer Areas
 - Interties
 - Internal Paths
 - Generator Interconnections
 - Line and Load Interconnections
- The following information is provided for each Project:
 - Project Description
 - Purpose
 - High-level Cost Estimate
 - Proposed Energization Date



Next Steps

- System Assessment
- Posting I – Summer 2015
 - Summary of 2015 System Assessment Results and Conceptual Solutions

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

