

ATC Methodology

Customer Forum
October 13, 2011



Agenda

- McNary – John Day Build Release to Market
 - What customers can expect
 - Next steps
- 2012 Planning Base Case
 - Base case 101
 - Inputs
 - Outputs
 - Overview of updates
 - Updated Modified 90th Federal generation pattern
- Update on Federal Generation Pattern Project
- ATC Inventory Management Strategy

McNary – John Day Build Release to Market



McNary – John Day Energization

- McNary – John Day build will energize in early 2012
- Build will drastically change BPA's system topology
 - Impacts how existing commitments flow over the network flowgates and therefore Available Flowgate Capabilities (AFCs)
 - Changes Power Transfer Distribution Factors (PTDFs)
 - Results in changes to Total Flowgate Capabilities (TFCs)
- McNary – John Day build will trigger the release of the 2012 Planning Base Case (beyond 13 months) and updates to the NERC base cases (0 to 13 months)

What Customers Can Expect

- NERC and Planning base cases will be released at the same time, approximately two weeks prior to energization
- Changes as a result of the base case releases
 - New AFCs
 - New PTDFs
 - Move from cut case to full case
 - Increases in TFCs for West of McNary and West Slatt flowgates
 - West of John Day network flowgate will be added
- Details of changes will be provided at a customer meeting in early 2012

What Customers Can Expect

- Updates to posted documents
 - Short-term Firm PTDF Calculator
 - Long-term Firm PTDF Calculator
 - Final 10 Year Minimum Comparison
 - Will show the differences in AFC values between the 2011 and 2012 Planning base cases (beyond 13 months)
 - Comparison of Existing Transmission Commitments (ETCs) for NERC base cases (0 to 13 months)
 - Long-term ATC, AFC, and Conditional Firm Inventory
 - PTDF Table
 - Planning Base Case Assumptions
 - ATC Implementation Document (0 to 13 months)
 - ATC and AFC Methodology documents for the Planning Time Period (beyond 13 months)

Next Steps

- Customers with Precedent Transmission Service Agreements (PTSAs) enabled by the McNary – John Day build *only*
 - Offers will go out to customers by January 1, 2012
 - Offers will have a Service Commencement Date of March 1, 2012
 - OASIS actions will be required
 - Account Executives will be in touch with customers that need conformance Transmission Service Requests (TSRs)
 - Conditional Firm contracts and Conditional Firm TSRs will be adjusted if applicable

Next Steps

- Customers with pending TSRs but without PTSAs
 - New AFCs, TFCs and PTDFs will be posted to OASIS two weeks prior to energization of the McNary – John Day build
 - Transmission Services will re-evaluate the long-term pending queue at that time to identify any other potential offers that can be made
- Dates of contract offers and Service Commencement Dates may change if the projected energization date changes
- Transmission Services will use Tech Forum exploder to communicate changes

Next Steps

- Transmission Services will hold a customer meeting on the release of the base cases
 - Anticipated to occur in early 2012, but can change based on actual project energization date
- Topics that will be covered
 - Review of 2012 Planning base case assumptions
 - Changes to the NERC base cases
 - Move from cut case to full case PTDFs
 - Release of West of John Day flowgate

2012 Planning Base Case

(Beyond 13 months)



Base Case Inputs

- System Topology
 - Assumes “normal operating conditions” or “all lines in service”
 - WECC base case is used and updated to reflect relevant system topology for the time period studied
- Generation
 - Federal: FCRPS generation pattern is scaled to load forecast
 - Non-federal: Contract rights inform the modeling of generation in the base case
 - BPA’s adjacent BAs: uses 2002 agreed to generation values
- Loads
 - Load forecasts (1-in-2 non-coincidental seasonal peak) come from the WECC base case
 - BPA supplies load forecasts to WECC for BPA customers only

Base Case Outputs

- Planning ETCs
 - Expected flows on network flowgates based on existing contract rights
- PTDFs
 - Contract ETC calculation
 - Interim sales
 - Request evaluation

Overview of Updates

- Modified 90th federal generation pattern will be updated to reflect more recent operational conditions
 - Generation pattern describes where generation has occurred historically at the Big-10 projects
 - Generation data from 2006 – 2009 replaces data from 1997 – 2002
- Updated system topology, including McNary – John Day build
- Other updated base case components
 - Loads
 - Non-federal generation assumptions
 - New long-term sales
- Updated PTDFs
- Details of above changes will be provided at a customer meeting in early 2012

Updated Modified 90th Percentile Generation Pattern

- The *methodology* for calculating the Federal generation pattern is not changing
- Generation pattern is being updated based on more recent generation data
 - The current pattern uses generation data from 1997-2002
 - The updated pattern uses generation data from 2006-2009
- The ATC Methodology states that BPA will discuss any changes to the federal generation pattern
 - There will be a customer comment period on this change

Updated Modified 90th Percentile Generation Pattern

- Changes in hydrological operations that occurred from 2006-2009
 - Updated Biological Opinion
 - Balancing reserve requirements
- The change reflects the fact that Federal generation has shifted from the lower river to the upper river (Grand Coulee and Chief Joseph)
 - Biggest shift is seen in August
- Changes in where generation occurs changes the flows on the network flowgates
 - Changes in flows impact AFC

Federal Generation Pattern Project



Update on Federal Generation Pattern Project

- Why Transmission Services decided to look at the Federal generation pattern
 - Current pattern has not been updated since the initial AFC Methodology was developed
 - More restrictive Biological Opinion
 - Wind balancing reserves
 - Uncertainty – loads, generation (water year, wind)

Project Progress

- Team has evaluated options on how to apply the generation pattern to long-term obligations
- Team has looked at options on how to run multiple power flow analyses
 - Gridview versus Powerworld versus manual
 - Option selected influences how many scenarios can be run
- Team has looked at data available for developing Federal generation patterns
 - Historical versus forecast data
 - Granularity of data (i.e. hourly, sub-hourly)
 - Ways to simplify analyses (i.e. clustering projects by location)
- Team has also looked at how to run an economic and risk analysis on scenarios

Challenges

- Transmission Services has limited scenario analysis tools
 - Difficult to determine how sensitive the network flowgates are to changes in the Federal generation pattern without a large amount of scenarios
- Team is continuing work under larger ATC Inventory Management Strategy team
 - We are looking at how limited scenarios analyses can be used to inform decisions about the Federal generation pattern

ATC Inventory Management Strategy



ATC Inventory Management Strategy

- BPA is aligning ATC work across NERC, Planning and Network Open Season time horizons through an ATC Inventory Management Strategy team
- Areas of Focus:
 - State awareness tools
 - What data is currently available and what are data needs of the agency
 - ATC systems and processes
 - Includes the development and/or improvement of systems, as well as process improvements
 - ATC policies
 - Includes policy questions on topics such as federal generation pattern, merit order dispatch, balancing reserves, how to account for uncertainty

Areas of Focus: State Awareness Tools

- Develop database for ATC management tools and analysis
- Dashboards – actuals vs. forecasts
- Identify data gaps and develop solutions to resolve them

Areas of Focus: ATC Systems and Processes

- Benchmarking and “as-is” process documentation
- Development of tools for scenario analyses and distributions
- Systems to better manage ATC
 - Repeatable, integrated, faster tools for calculating ATC components

Areas of Focus: ATC Policies

- Continuity of base case assumptions and methodologies across time horizons
- Acknowledge interrelationships of ATC components (avoid double encumbrance)
- Update policies to address changing needs and uncertainties

Next Steps

- Update will be given at the customer meeting on the base case that will be scheduled for early 2012