BPA’s Long-Term Planning Process
In A Dynamic Market

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BPA Service Area

Approx. 300,000 mi² service area with over 15,000 circuit miles & 260 substations
BPA Transmission Strategy

• Assure a safe and reliable transmission system while meeting compliance requirements with cost effective investment guidelines.

• Balance transmission system investments with physical, economic and environmental considerations.

• Promote coordinated, efficient operation, expansion and enhancement of transmission and non-wires solutions.

KEY TAKEAWAY: Modernizing and securing our power grid is essential to continuing to meet the challenges of the 21st century - BPA has embraced a more flexible, scalable, economically and operationally efficient approach to managing our transmission system. BPA is increasing its reliance on advanced technology, robust regional planning, industry standard commercial practices and coordinated system operations.
Context

• Public policies, technology availability and end user preferences are accelerating the shift toward a carbon-free electric sector.

• There is more than one way to achieve reduced emissions targets, but implementation affects relative performance of resource and transmission portfolios.

• Robust consideration of uncertainties is necessary to minimize the cost of being wrong.
  — No perfect forecasts

• Transmission assets have a very long useful life.

KEY TAKEAWAY: Having appropriate analytical capability including better predictive scenarios will improve BPA’s ability to meet transmission customer needs more efficiently and responsively
Planning Capabilities Complement Each Other

- Concept 40k altitude (20-30 years)
  - Conceptual Scenarios

- 30k altitude (20 years)
  - Capacity Expansion Model

- 10k altitude (5-20 years)
  - Production Cost Model

- 5k altitude (1-10 years)
  - Reliability Planning

- Landing Gear (0-13 months)
  - Operations

Flight Plan

Adopted May 2017: Scalable, Flexible, Technology Driven Approach
These two groups of generators never peak at the same time in most limiting months – Realistic dispatch assumptions are needed for planning.
TSEP Needs Assessment

• Power flow scenario analysis is used to estimate flowgate needs in response to transmission service requests (TSR).
  – Winter, spring, and summer seasonal conditions for load and hydro
  – High variable resource cases and high dispatchable resource cases for each season
  – Intertie import/export assumptions appropriate for each condition
  – Limiting condition varies by flowgate