Wrap-up

February 12, 2016
You have all been wonderful!

THANK YOU
BPA Focus 2028

Strategic Choices

- FY14 IPR/CIR
- FY16 IPR/CIR
- FY18 IPR/CIR
- FY20 IPR/CIR
- BP22 Rates
- BP20 Rates
- BP18 Rates
- BP16 Rates

Focus 2028
Kick-off Recap

- BPA’s vision of being an engine of economic prosperity and environmental sustainability remains strong.
- BPA’s goal is to be low cost provider to customers beyond 2028.
- There are a significant risks and uncertainties.
- Significant choices to be made investing in programs and physical assets. BPA wants to ensure investments are made wisely.
- We need to think of the long-term when making decisions.
- Reference Case is a strong tool. Offers a basis for comparing alternatives. The Reference Case is not a forecast of 2030 rates.
Future

CYBER & GRID SECURITY • NEW REGULATIONS • CLIMATE CHANGE • ENVIRONMENTAL STEWARDSHIP • SECONDARY REVENUES • MARKET EVOLUTION • ASSET MAINTENANCE • DISTRIBUTED GENERATION • COMPETITIVENESS

Forecasted electricity production from variable generation resources, wind and solar. These curves capture the forecast variability. The daily net load curves capture one aspect of forecasted variability. There will also be variability in hour and day-to-day that must be managed. The ISO created curves for every day of the year from 2012 to 2020 to illustrate how the net load following need varies with changing grid conditions.

Ramping flexibility

The ISO needs a resource that can react quickly to adjust electricity production to meet the sharp changes in electricity net demands.

Figure 1 shows a net load curve for the January 11 study day for years 2012 through 2020. This curve shows the megawatt (MW) amounts the ISO must follow on the y-axis over the different hours of the day shown on the x-axis. The yellow portion of the curve shows when the ISO can call upon the ramping flexibility available from resources.
What We Heard

- Speed and agility are critical to competitiveness in fast changing landscape.
- Competitiveness is a nuanced concept. BPA should consider differences among customers as it considers competitiveness.
- Implications of low load-growth projections.
- BPA should demonstrate rigorous cost control, careful prioritization, and sequencing of investments.
- Diversity of stakeholders is challenging. Will not agree on everything, but there is common ground.
- BPA’s view of success must go beyond financial health and encompass the environmental health of the Basin.
- BPA should set rate goals – and meet or beat them
- Big changes are coming including market evolution, technology advancements, climate change regulations, and physical changes to the climate.
  - Consumers want renewables, low cost, and high reliability.
  - BPA needs to manage resources to meet the evolving environment.
  - The PNW needs to adjust to the world around us.
Focus 2028

- Educate
- Ideate
- Prioritize
- Commit
- Engage
- Decide
Did we get it all?

WHAT WE HEARD THIS WEEK
Kick-off Q&A

- What should the prioritization criteria be?
- How does BPA roll up efforts in a way that ensures competitiveness?
- How will market changes impact cost competitiveness over time?
- Transparency & value in cost increases
- How should BPA prioritize these initiatives? (what are criteria)
- How create more certainty on rate increases given 2-yr rate periods
- Additional development of reference case & long term cost projections
- Rec: Set hard targets to drive internal work toward a competitive outcome.
- How create visibility into what costs are and why?
- Develop more robust out year forecasts and incorporate those into the reference case
- Maintaining long term focus balanced with shorter term rates
- Prioritizing actions by providing greatest value at lowest possible cost
- Develop a revised strategic plan
- Can have good things done well & still end up at not cost competitive
- Need rate certainty by year so utilities can do their own long-term planning
- Sequencing opportunities
- Imbed a rate path in the strategic plan.
- How align BPA employees & region around a common vision?
Kick-off Panel

How does BPA leverage IT to create value?

How does BPA optimize the contractor vs. BPA employee mix?

How can BPA implement lean inventory management?

What are opportunities for improved data integration?

How do we leverage demand side solutions to avoid expensive infrastructure projects?

Recruitment & retention of skilled employees.

How do we provide clarity for F&H work efforts?

How to bring down O&M costs of Fed Hydro & CGS? (Joint efforts)

How do we further optimize debt management?

How does BPA leverage demand side solutions to avoid expensive infrastructure projects?

How do we develop regional views of Transmission Planning & solutions?

How do we keep F&H spending stable in light of continued pressure to do more?

How to maintain的目光 on continued pressure to do more?

What is the best way to “invest to save” in Transmission?

How do we improve Asset management?

How do we increase ROI by improving certainty in T. Planning & Design?

How do we increase certainty in T. Planning & Design?

How do we address new competitive threats from new technologies? (district generation, storage, technologies)

How can we reduce costs through improved facilities design + incorporation of Sustainability?

How can BPA expand T. product offerings to maximize value of grid?

How can BPA improve stakeholder awareness to better optimize system operations?
Cost Management

- Should BPA additionally reduce costs when revenue not much?
- Within your prioritization adjustments?
- Using budget as a planning tool & making adjustments
- Connect within-year decisions/prioritization to real-time trends in revenues.
- What tap into value of flexibility in hydro? (Revenue ops)
- How do BPA staff get greater visibility into individual cost elements + accomplishments?
- How does BPA demonstrate successful cost management?
- (BT & to customers)
- Need greater insight into marginal costs & benefits
- How do we evaluate whether we are improving cost management?
- Budget as a planning tool v. authorization
- What are opportunities and metrics within each phase of the management cycle?
- How do you determine obligations? How to set?
- How do we evaluate process improvements?
- Utilities cut budgets in response to market conditions - can BPA react to larger budget drivers.
- What are the priorities in LPR?
- What is strategic process that guides/governs what do with cost management?
- How do we understand cost structure & executive accountability
- Do you have the right people examining costs & benefits through the process?
Managing for Financial Health

- Consistency of message & actions
- Seattle Metrics
  - Debt service coverage 1.0
  - Debt-to-capital ratio of 60%
  - Debut financing 40% of cap spend
- Development of a financial reserves policy
- Improved asset management (prioritization/timing)
- Policy on fixed v. VR debt
- More scenario planning regarding changing markets & technology
- Importance of long-term contracts to credit ratings @ ax coverage ratios
- Development of 6-yr strategic plan
- Look @ rates v. borrowing for capital
- Reduce debt levels
  - D-to-cap ratio: 35%
- Balance impact on future beneficiaries
  - 40% Capital paid w/revenues
- Develop financial policies, goals & targets
- ax debt service coverage ratio before using reserves for other purposes
- Enterprise risk metrics
- Rate stabilization accounts
- Risk: Renewables generation out of CA impact on revenues
- Balanced scorecard of financial metrics
- Schedule for re-visiting financial policies, but try to keep stable
- Financial preparation for Cascadia earthquake
Managing for Financial Health (continued)

- Cash reserves vs long-term debt
- Proportion of long-term fixed contracts because of long-term debt.
- Work with customers to establish benchmarks.
- Look at changing customer needs to set strategy and infra. goals.
- Benchmark rates against similar entities (competitiveness).
- Impact of RPS Rec. Payments on top of BPA rates.
- Smooth rate increases as goal.
- Lean 6-Sigma ISO 5500 approach to cost management.
- Importance of following through on policies.
- Asset sales & application of revenues in good years.

Criteria for Investment:
- ROI
- Risk of not doing
- Alignment w/ strategic plan
- Alternatives

Improve understanding of qualitative measure of financial health:
- Cap. investment strat.
- OPs for incr. revs.
- etc...
Federal Hydro

- Lead growth impacts on planning
- Timing of investments
- Investment considerations: value, flexibility, need, risk
- Trig vs. planning - why are we in trig? situation?
- Optimum level of investment
- How does value of secondary sales impact investment decisions?
- Changing mix of federal system - impact on value of investments
- O&M Efficiencies
- How optimize fed hydro capx when revenue implication change with the market?
- What are the best investments, most value out, net benefits?
- Request for follow up workshop on modeling of investment levels
- How do we address the investment backlog
- Capital investment backlog
- Improve cap, investment planning bottleneck
Fish and Wildlife

- Lifecycle approach
- Ability to expand hatchery asset management for older corps hatcheries
- How calibrate ftw costs in light of market to stay competitive
- Scope of new Biop & Accords
- Opportunity to use hydro flexibility for fish given changing tech.
- BPA contribution to total region in funding
- Prioritization of FtW investments relative to other asset types
- Funding certainty and ability to bring in cost share
- Technology use for FtW
- Efficiency in RM&E
- How account for climate models in design of actions
- Deminishing returns relative to dam survival actions
- Lamprey passage at dams and CRFM program
- Rightsizing and utilizing technology for research
- How protect resilient habitat
- RM&E Reform
- Benchmarking FtW costs relative to other utilities
- How deal with warm reservoirs?
Energy Efficiency

- BPA role and importance in region
  - Strong BPA role

- Rural complexity

- How reduce overhead associated with implementing incentives...
  - Cost of implementation

- Address regulatory issues through self-funding

- Re-examine role of incentives in what consumers buy

- Specific utility business cases for EE

- Current funding model is outdated

- Look outside of BPA for implementation efficiencies

- Program and policy efficiencies

- Align incentives so value flows to utilities

- Increase flexibility around self-funding

- Challenge: seeing value of EE with low load growth

- Spending across rate periods

- Link targets to resource planning (avoided cost etc)

- Principle - keep BPA in central role to support economies of scale etc
Energy Efficiency (continued)

- REP issues related to EE
- Focus on retailers to shift markets
- Look at business case for EE in each service territory
- How focus on long view (focus 2028)
- BPA’s Backstop Role
- Examine EE accounting (benefits)/Revenue
- Acknowledge lack of resources of low-income cust. to take part in EE programs
- How address struggles to acquire EE in some regions
- Alternative methodologies for setting BPA Target
- Take into account other legal requirements when set self-funding
- Look at value to customer bill, v. rate impact
- Learn from Fed Hydro as to how to estimate revenue benefit of EE
- Self-funding 90% dependent on utility circumstances
Transmission

ATZ [Inventory may be making the need for capital expenditures. What are the consequences?]

Variable transfer limits

The problem needs a different look than traditional wires and non-wires

Capital solutions can include EDA, non-wires, renewables, etc.

Challenge that BPA is congested or is it how engineers are modeling it.

Create public visibility into 7 planning process

Is BPA positioned to explore generation?

How pay for generation solutions on 7 side?

Distinction between social risk/benefit to cost to BPA

Is capital size will impact the room we have for sustain

What would the $750 mm of IS costs impact on rates be? Versus non-wires

Q of compounded conservatism that hurts optimization

Perception of congestion is multiplied in conservation among utility analysts

We need to look at costs of security of the BPA Tr system. As a region, we need to review the costs.

How consider the location of aging equipment + future need in that location

Consequences of going past net economic life

How does modeling take into consideration of changing environment (e.g., renewables, etc.)

Who else can build T lines? Are they more cost-effective?

We need integrated resource and transmission planning with cost consideration.
Transmission (continued)

- **Challenge:**
  - Aging communication infrastructure

- **Risk:**
  - Changing sources of generation

- **I-5 Solutions:**
  - Need to look at solutions from the South, need input from that important

- Economic life needs to factor benefits that the system provides

- Desire for cheapest cost of delivered power (not just P or T costs)

- Given the changes we see in the future, how do we factor in what actually needs to be sustained

- Consistency/clean data to enable efficiency
  - Data sharing

- In CIR/IFR, it would be useful to have the consequences of not investing in sustain, bring examples

- How much coordination on I-5 is being done with others? Be need regional planning

- Lean on regional partners for ideas on how to get the most out of the I-5 system

- NT customers think a total delivered product not T by itself

- NT customers need to manage its cost, all of them, especially get debt in control

- Focus on reducing debt

- Investment in IT is significant yet provides the biggest benefits to more use of the system

- Would like to hear how West and NERC affect plans and capital budgets

- Recognize role as monopoly

- It’s not overall load growth but load shifts in specific locations
Transmission (continued)

- Need to explicitly review role increases caused by sustaining and renewal alternatives.
- Looking to levelize cost of T investments (Sustain). Focus on delivered costs & benefits to overall Network.
- Role of customer type in solutions - NT Customer.
- Need to say “No” to some costs (Ftu or EE).
- How do WECC/NERC requirements tie hands?

- See BPA debt as a huge, negative issue.
- Location of load (old v. new loads).
- We need to rethink our products.
- Reflect what is happening real-time on our system in our available inventory.

- Risk IT systems/data.
- Visibility will assist with hub and new regional assets.
- How do we get more visibility - system operations?
- Power X - 1/3 budget is IT... can we leverage and get the most from it? System, Awareness.
- BPA needs to innovate and promote the most from its system.
- Ask BPA to innovate... data/analytic improvements...
Tension in Our System

- Play it Safe
- Look Long Term
- Certainty of Rates
- Lowest Possible BPA Costs

- Innovate
- Next Rate Period
- Uncertain Future
- Strong Environmental Stewardship
What have we missed?

QUESTIONS AND INPUT
Wrap-up Inclusion

- Appreciation of Process
- What are business units to bend cost curve?
- Importance of driving to actionable items
- Insight/Engagement on CAS costs over time
- Evolving cost management
- Focus 2021 is a central theme of work being done at BPA today
- Policies around borrowing authority and repayment