

# Transmission Workshop Follow-ups

**Describe the detail behind line 8 on slide 5, including a breakdown of interest, depreciation, etc. for this year and out years**

**TRANSMISSION ESTIMATED CAPITAL RELATED COSTS DETAIL  
FOR RATE PERIODS FY18/19 - FY30/31**

	A		B		C		D		E		F		G		H		I		J		K		L		M		N	
	Change from BP-16 to FY 18/19		Change from FY18/19 to FY20/21		Change from FY20/21 to FY22/23		Change from FY22/23 to FY24/25		Change from FY24/25 to FY26/27		Change from FY26/27 to FY28/29		Change from FY28/29 to FY30/31															
Expenses	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates	\$ (Million)	% Change in Rates
<b>8. Capital Related Costs</b> <sup>1/</sup>	(24)	-3.0%	76	7.9%	103	9.7%	120	10.2%	49	3.6%	73	5.0%	23	1.0%														

1/ Includes Net Interest Expense, Depreciation/Amortization and Minimum Required Net Revenues.

(\$ in Thousands)	AVG BP-16	AVG 18/19	AVG 20/21	AVG 22/23	AVG 24/25	AVG 26/27	AVG 28/29	AVG 30/31	
DEPRECIATION & AMORTIZATION	244,091	287,456	308,716	322,669	344,781	361,655	384,392	407,709	
NET INTEREST EXPENSE	144,669	174,584	230,387	282,462	301,904	320,876	341,230	351,577	
MINIMUM REQUIRED NET REVENUE	98,199	901	0	36,481	114,825	127,791	157,892	147,648	
CAPITAL RELATED COSTS	486,959	462,941	539,103	641,612	761,511	810,322	883,514	906,933	
Estimated Change from Previous Rate Period			(24,017)	76,162	102,508	119,899	48,811	73,192	23,420

## How does BPA’s capital process work to ensure approvals are done in a timely manner?

### Sustain:

Transmission Services sustain investments are prioritized based on reduction of *total economic cost* as described in the answer to Slide 29 – Prioritization Sustain vs Expand. Capital approval of Sustain projects (replacement of failing and/or obsolete assets) is performed programmatically for a given period, based on total economic cost models, engineering judgment, and risk assessments.

### Expand:

Expand investment prioritization begins with categorization of the driver, which may include one or more of the following:

- Compliance with mandatory reliability standards
- Policy or tariff-driven, including Line-Load and Generation interconnections, and to enable transmission sales. The projects required to meet these customer needs typically have need dates in advance of the remainder of the capital portfolio, prompting Transmission to provide priority treatment of customer projects.
- Discretionary, including Operations & Maintenance Flexibility proposals

The capital approval process for Expand projects is risk informed and utilizes written business cases, with increasing levels of review and scrutiny as the project cost increases. Below \$500k project cost, the Expand Program Manager may approve the project without further review. Breakpoints at \$3M and \$7M require additional levels of Transmission Services and Agency review and approval.

Timely capital approval is facilitated by a standardized agency process and Transmission’s capital portfolio that accommodates re-prioritization as required by customer needs. When urgent need dates are identified through the Line-Load and Generation Interconnection processes, project sponsors, business unit engineers and managers, prepare documentation and advocate for prioritization and the earliest possible capital approval, along with early identification and management of critical path schedule elements such as land rights, environmental and cultural clearances, etc. Customer driven projects are best served by close communication and coordination between the project sponsor (who may be a BPA Customer Service Engineer or Account Executive) and the Customer’s representative. The BPA CSE and/or AE is in the best position to advocate for timely approval to meet the Customer’s need date.

**Additional detail of Strategic Integration costs and explanation of change from Rate Case to IPR**

All EIM and Columbia Grid costs that were assumed to be in this program in BP-16 were reallocated to other programs within Transmission. (For additional detail, refer to the crosswalk provided for Transmission follow-up – Crosswalk of costs moved to other categories). The proposed levels for FY17 – FY19 are the Corporate allocated costs for strategic management and business process work, as well as initiatives such as climate change and operational excellence initiatives. For further detail on these initiatives, refer to the Corporate Strategy section in the IPR Publication, pages 165-169.

**Crosswalk of costs that have been moved to other categories**

TRANSMISSION SERVICES - IPR16						
CROSSWALK OF COST SHIFTS WITHIN TRANSMISSION PROGRAMS						
(\$ in Thousands)						
			BP16 Average	FY18/19 Average	BP16 /IPR	
Proj L2 Descr	Proj L3 Descr	Proj L4 Descr	Amount	Amount	Delta	Portion of Delta Related to Shift of Costs Within Transmission Programs
TRANSMISSION OPERATIONS	SYSTEM OPERATIONS	INFORMATION TECHNOLOGY	10,468	6,050	(4,418)	Shifted from direct charging \$7.6M to G&A allocation
	SYSTEM OPERATIONS	STRATEGIC INTERGRATION	7,539	1,426	(6,113)	Redeploy EIM \$6.1M to Comm Ops KSI in Marketing: Business Strategy & Support and \$2.6M for Columbia Grid to TSD Planning and Analysis
	MARKETING	BUSINESS STRATEGY AND ASSESSMENT	7,231	23,280	16,049	KSI Costs including Comm Ops (\$17M less EIM costs shifted from Strategic Integration program \$6M)
	BUSINESS SUPPORT	LEGAL SUPPORT - EXPENSE	3,440	1,754	(1,686)	Shift from direct charging to G&A allocation
TRANSMISSION ENGINEERING	SYSTEM ENGINEERING	TRANSMISSION SYSTEM DEVELOPMENT PLANNING & ANALYSIS	16,612	22,133	5,521	\$2.6M Columbia Grid Costs shifted from Strategic Integration program
BPA INTERNAL SUPPORT	GEN & ADMIN/SHARED SERVICES	CORPORATE OVERHEAD-EXP	63,835	81,794	17,959	Total increase in allocation due to shifting from Direct Charging programs is \$10.8M which includes \$9.3M for IT and Legal as indicated above

**Balance sheet view – sources of funding? – slide 21**

The 6/24 debt management workshop covered this. The debt management workshop slides [online](#) discuss the different sources of capital financing. To summarize, the 2018-19 rate period assumes 100% Treasury borrowing. For 2020 and beyond, a 50/50 split between Treasury bonds and lease purchase is assumed.

This information was made publicly available on July 1, 2016, and contains information not sourced directly from BPA financial statements.

## Interested in how BPA is conducting prioritization and how it affects rates. What goes into determining sustain vs. expand – slide 29

### Sustain:

Transmission Services prioritizes sustain investments as described in the Transmission Asset Management strategy. All sustain program investments are prioritized based on reduction of *total economic cost*. This risk-informed, leading practice involves assessing the health condition of equipment, the likelihood of equipment failure and the potential for curtailments and outages should equipment failure occur. By using a common platform for evaluating risk, this method allows comparison of sustain investments across equipment groups and produces a prioritized program for asset replacements designed to minimize BPA costs and costs associated with loss of reliability from equipment failures over time. Sustain planning models have been developed to identify the optimal levels of investment in each program that minimize total economic cost and best meet the Transmission Asset Management strategic objectives. The components of total economic cost are:

#### Cost to BPA:

- Yearly on-going costs
- One-time costs
- BPA cost incurred during transmission outage
- Other costs

#### Reliability cost:

- Cost to customers
  - Increased cost of energy delivered during outages
  - Customer value loss during transmission outages

### Expand:

Expansion-type investments, greater than \$3M, are prioritized using a single BPA-wide process. Each asset category nominates, assesses and evaluates its proposed investments using a standardized value-based approach. The results are combined and then prioritized by BPA's Finance Committee to form the agency capital portfolio and inform the level of funding needed by each asset category to be submitted into the Capital Investment Review and rate case process. These investments, along with a base level of small capital expansion-type investments (less than \$3M) form the total forecast for Transmission Services expansion needs.

The primary rate impact of the capital investment program is driven by the level of the program itself. The levels in the IPR/CIR proposal were *informed by a long-term rate trajectory and balanced against near term impacts on our ability to deliver on our mission*. Those capital investment levels are lower than what our analysis of the system needs indicated. As a result, it is our intention to fully invest to the proposed capital levels. Prioritization will not change those levels, so prioritization would not be expected to have a major impact on rates because that would require a significant change in capital levels.

In this approach, prioritization plays a more subtle, but important role. Prioritization ensures that we select the most valuable investments within the proposed levels. By investing our proposed capital levels prioritized by the Net Economic Benefit Ratio and Total Economic Cost (and its equivalent in Power), we ensure that we make the highest value investments first. That will

ensure that we get the most value for our investments which, in turn, generally ensure the best rate outcome. In very limited cases, it is possible that a high-value investment may rank well in prioritization based on benefits that flow to the region and not entirely to BPA. Even in those limited cases, there is a regional benefit that the analysis shows outweighs the cost born by BPA.