Leverage Policy

April 20, 2018, 8:30 a.m.
BPA Rates Hearing Room
WebEx: join the meeting
Meeting Number: 904 977 134
Meeting Password: Jh2HP3TF
Phone Bridge: 415-527-5035

Leverage Policy timeline

- April 20: Public workshop and draft policy posted
  - April 20 – May 11: Official public comment period. Comments to be submitted to the BPA comment page (www.bpa.gov/goto/comment).
- June: Publish final ROD.

Leverage policy purpose

Strategic Goal Objective 1b: Strengthen financial health and build financial resiliency through objectives for **debt utilization**, debt capacity and liquidity.

- The strategic and financial plans set a goal of developing a policy to achieve a debt-to-asset ratio of 75 to 85 percent for the agency and each business unit within 10 years.
  - The long term goal is a ratio of 60 to 70 percent.
- 75 to 85 percent is an interim goal range that acknowledges BPA's leverage is currently too high and should be reduced over time to support its long term financial health.
- The long-term goal of 60 to 70 percent is closer in line with industry standards, but will take many years to achieve. BPA plans to revisit this goal near the end of the current financial planning cycle.
- Financial health benefits of a lower debt-to-asset ratio include:
  - Lower future interest expense.
  - Increased available borrowing authority.
  - Increased financial flexibility.
  - Support for BPA's credit rating; reducing future interest costs.
  - Stronger competitive position.

Policy implementation

- Elements of the record of decision:
  - Establish policy framework.
    - Metric: debt-to-asset ratio.
    - Targets:
      - Near-term: BPA will not allow an agency or individual business line debt-to-asset ratio to increase from rate-period to rate-period.
      - Mid-term: BPA as an agency and each individual business line will achieve a debt-to-asset ratio between 75-85% by 2028.
      - Long-term: BPA aspires to achieve agency and business line debt-to-asset ratios of 60-70%.
    - How the policy will be implemented.
- Elements decided within Integrated Program Review public process.
  - Capital investments.
  - Discontinuing regulatory treatment of certain assets.
- Elements to be decided within rate case 7(i) process:
  - Establish specific ratio targets for the rate period in accordance with the policy.
  - Identify which tool(s) will be used in the rate case to take any necessary policy action e.g.
    - Additional debt repayment.
    - Revenue finance capital investments.

Debt-to-asset ratio calculation using actuals

(Federal debt + nonfederal debt)/(Net utility plant + nonfederal generation)

$ in millions — FY 2017

FCRPS	Debt	Assets
Net utility plant		13,426
Nonfederal generation		3,519
Federal appropriations	2,029	
Borrowings from U.S. Treasury	5,009	
Nonfederal debt	8,262	
Total	15,300	16,944
Debt-to-asset ratio:	90 percent	

$ in millions — FY 2017

Power	Debt	Assets
Net utility plant		6,377
Nonfederal generation		3,519
Federal appropriations	2,022	
Borrowings from U.S. Treasury	1,940	
Nonfederal debt	5,766	
Total	9,728	9,896
Debt-to-asset ratio:	98 percent	

$ in millions — FY 2017

Transmission	Debt	Assets
Net utility plant		7,048
Nonfederal generation		
Federal appropriations	7	
Borrowings from U.S. Treasury	3,068	
Nonfederal debt	2,497	
Total	5,572	7,048
Debt-to-asset ratio:	79 percent	

Debt-to-asset ratio calculation detail

2. Utility Plant

As of Sept. 30 — millions of dollars	2017	2016	2017 Estimated average service lives
Completed plant			
Federal system hydro generation assets	$ 9,109.2	$ 8,964.4	75 years
Transmission assets	9,525.8	9,088.9	48 years
Other assets	185.2	223.2	7 years
Completed plant	$ 18,820.2	$ 18,276.5	
Accumulated depreciation			
Federal system hydro generation assets	$ (3,355.4)	$ (3,235.1)	
Transmission assets	(3,138.5)	(2,963.5)	
Other assets	(94.2)	(111.8)	
Accumulated depreciation	$ (6,588.1)	$ (6,310.4)	
Construction work in progress			
Federal system hydro generation assets	$ 567.5	$ 485.3	
Transmission assets	606.2	800.6	
Other assets	20.0	26.1	
Construction work in progress	$ 1,193.7	$ 1,312.0	
Net Utility Plant	$ 13,425.8	$ 13,278.1	

*Note 2 to the FY 17 financial statements

- Net utility plant includes completed and construction work in progress.
- Net utility plant encompasses the original asset value less accumulated depreciation, reflecting at any given time the book value of assets.

Debt-to-asset ratio calculation and RFR

- Bonneville reports an unaudited metric called Reserves for Risk that consists of the following:
  - Cash and cash equivalents
    - Cash and short-term investments
  - Deferred borrowing
    - Cash from operations that BPA has spent on capital investments that BPA plans to borrow for in the future.
    - In order to reduce the amount of interest expense BPA incurs, BPA delays it's borrowing as much as possible until cash for operations is needed, thus typically the majority of BPA reserves is comprised of deferred borrowing.
- How this impacts the debt-to-asset ratio:
  - Deferred borrowing **is not** included in the debt side of the ratio calculation since debt has not been incurred.
  - Thus reserves are indirectly factored into the debt ratio calculation, and result in lowering the debt to asset ratio by the amount of deferred borrowing.

Power preferred 10 year plan

1. Preferred Scenario // Base Case - Power BP-18 Final Proposal

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$536m	$509m	$565m	$588m	$602m	$66m
Interest Repayment	$352m	$342m	$341m	$341m	$338m	-$14m
Debt Ratio	94.44%	93.16%	92.21%	88.47%	81.67%	N/A
Debt Ratio Change	N/A	-1.28%	-0.95%	-3.74%	-6.80%	N/A

Note: dollar figures represent average annual rate period amount, debt ratio represents end of rate period amount

- **Power is already a net re-payer** of debt and based on current policies and practices, will continue to deleverage at a significant pace; meeting the leverage policy goals without additional action.

Transmission scenario analysis

1. Base Case - Transmission BP-18 Final Proposal

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$247m	$265m	$291m	$309m	$341m	$94m
Interest Repayment	$156m	$203m	$245m	$279m	$317m	$161m
Debt Ratio	81.45%	83.55%	85.14%	86.67%	88.62%	N/A
Debt Ratio Change	N/A	2.10%	1.59%	1.53%	1.94%	N/A
% Cost Change*	N/A	6.4%	6.4%	4.5%	5.9%	N/A

* % Cost Change represents the percentage change in the rate period average total costs from one rate period to the next due to changes in capital costs. It assumes 18/19 average IPR costs of $604m are constant across all years. Total Costs equal the IPR costs plus principal and interest.

Note: dollar figures represent average annual rate period amount, debt ratio represents end of rate period amount

- Transmission is a net borrower of debt and based on current policies and practices, will increase its leverage significantly by 2028.
- Based on current policies and practices, additional principal and interest repayment will cause upward cost pressure.

Transmission scenario analysis

2. Preferred Scenario // Base Case + Flat Capital + phase-in + 75% target by 2028

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$247m	$330m	$425m	$497m	$532m	$285m
Interest Repayment	$156m	$190m	$206m	$215m	$225m	$69m
Debt Ratio	82.18%	82.67%	81.36%	78.88%	75.00%	N/A
Debt Ratio Change	N/A	0.49%	-1.31%	-2.48%	-3.89%	N/A
% Cost Change*	N/A	11.6%	9.9%	6.5%	3.5%	N/A

Note: dollar figures represent average annual rate period amount, debt ratio represents end of rate period amount

Delta from Base Case

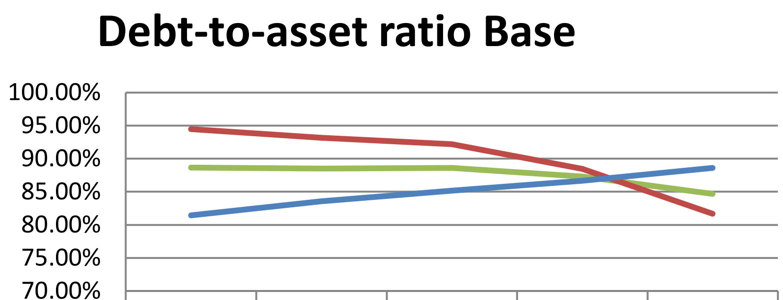
	18/19	20/21	22/23	24/25	26/27/28
Principal Repayment**	$0m	$65m	$134m	$188m	$191m
Interest Repayment	$0m	-$13m	-$40m	-$64m	-$93m
Debt Ratio	0.73%	-0.88%	-3.78%	-7.79%	-13.62%
Debt Ratio Change	N/A	N/A	N/A	N/A	N/A
% Cost Change	N/A	5.2%	3.5%	2.0%	-2.5%

**Equivalent to amount of revenue financing

- Key assumptions:
  - Approximated effects of new depreciation study.
  - Flattened BP-18 Final Proposal capital numbers through 2028.
- Transmission phase-in:
  - Due to expected cost pressures unrelated to the leverage policy, BPA included a one-rate-period exception to the near-term policy target.
    - This will allow Transmission’s debt-to-asset ratio to increase from the end of BP-18 to the end of BP-20.
- Highlights of the preferred scenario:
  - Targeting the low end of the 10 year range increases repayment enough so that Transmission becomes a net re-payer of debt by the end of BP-22.
  - Interest expense savings reaches nearly $100 million per year compared to the base case by 2028.
  - Despite reducing the debt-to-asset ratio, interest continues to grow in all years.

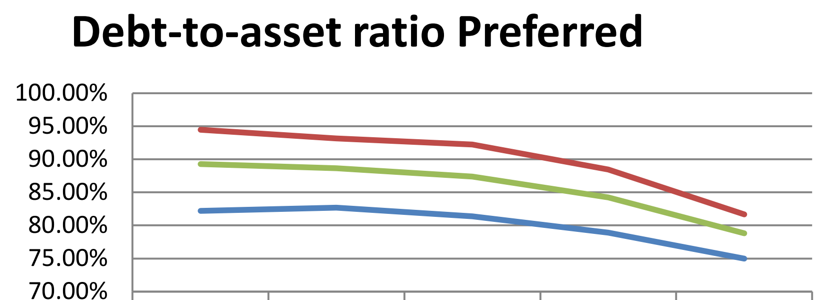
Financial metrics and highlights

Power and Transmission Base Case



	18/19	20/21	22/23	24/25	26/27/28
Agency	88.67%	88.52%	88.62%	87.27%	84.67%
Power	94.44%	93.16%	92.21%	88.47%	81.67%
Transmission	81.45%	83.55%	85.14%	86.67%	88.62%

Power and Transmission Preferred 10 year plan

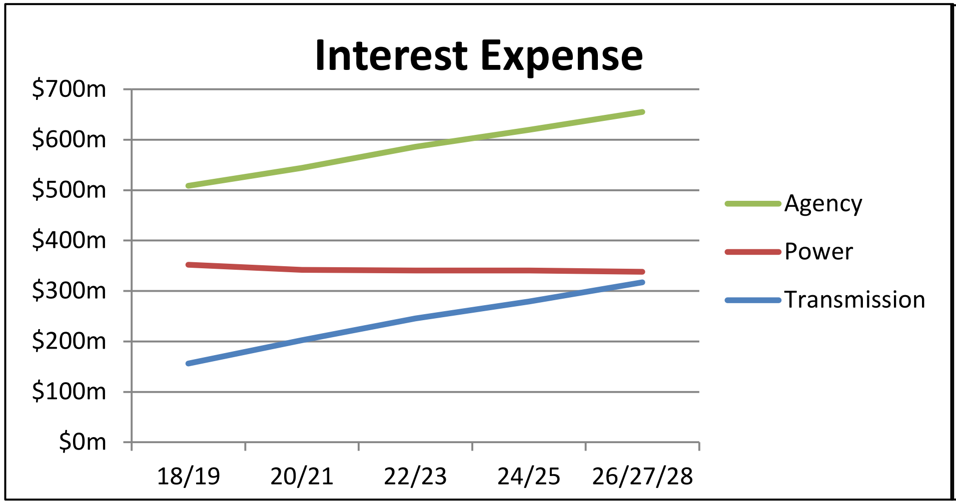


	18/19	20/21	22/23	24/25	26/27/28
Agency	89.25%	88.62%	87.41%	84.25%	78.81%
Power	94.44%	93.16%	92.21%	88.47%	81.67%
Transmission	82.18%	82.67%	81.36%	78.88%	75.00%

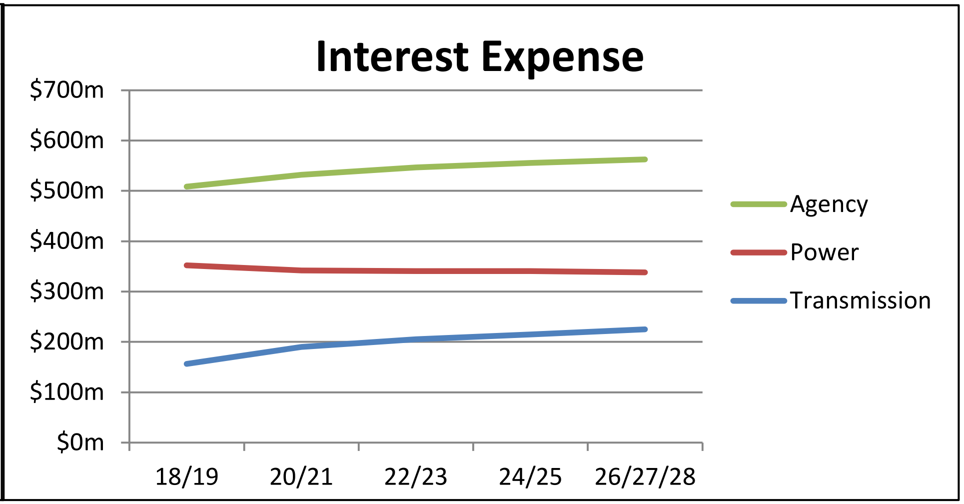
- Under the preferred scenario the Agency, Power, and Transmission debt-to-asset ratios decline to be within the mid-term target of 75-85% and will be positioned to reasonably achieve the long-term target of 60-70%.
- Reducing the leverage of the agency and each business line supports BPA's long term financial health.

Financial metrics and highlights

Power and Transmission Base Case



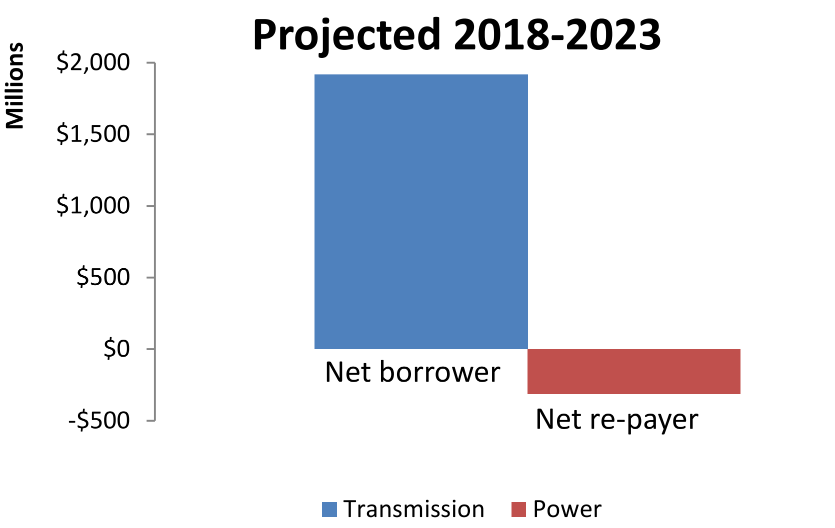
Power and Transmission Preferred 10 year plan



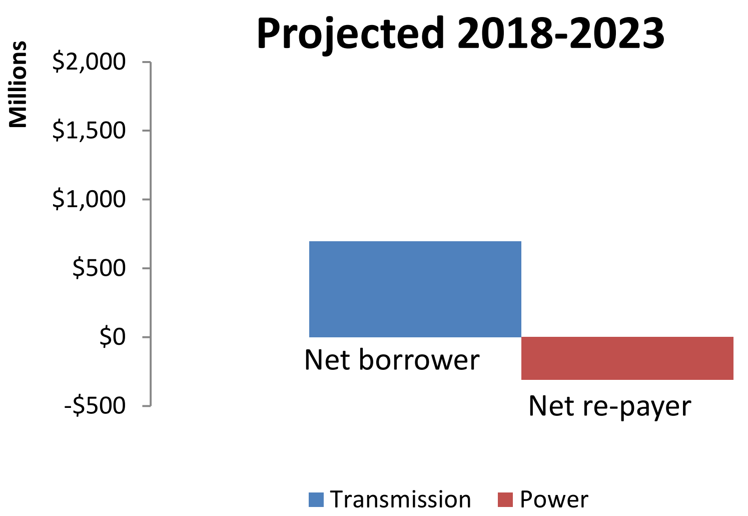
- Under the preferred scenario in the right-hand graph, interest expense continues to increase for Transmission relative to the base case, however at a much slower rate.
- Interest expense decreases modestly for Power due to being a slight net re-payer of debt over the forecast period.

Financial metrics and highlights

Power and Transmission Base Case



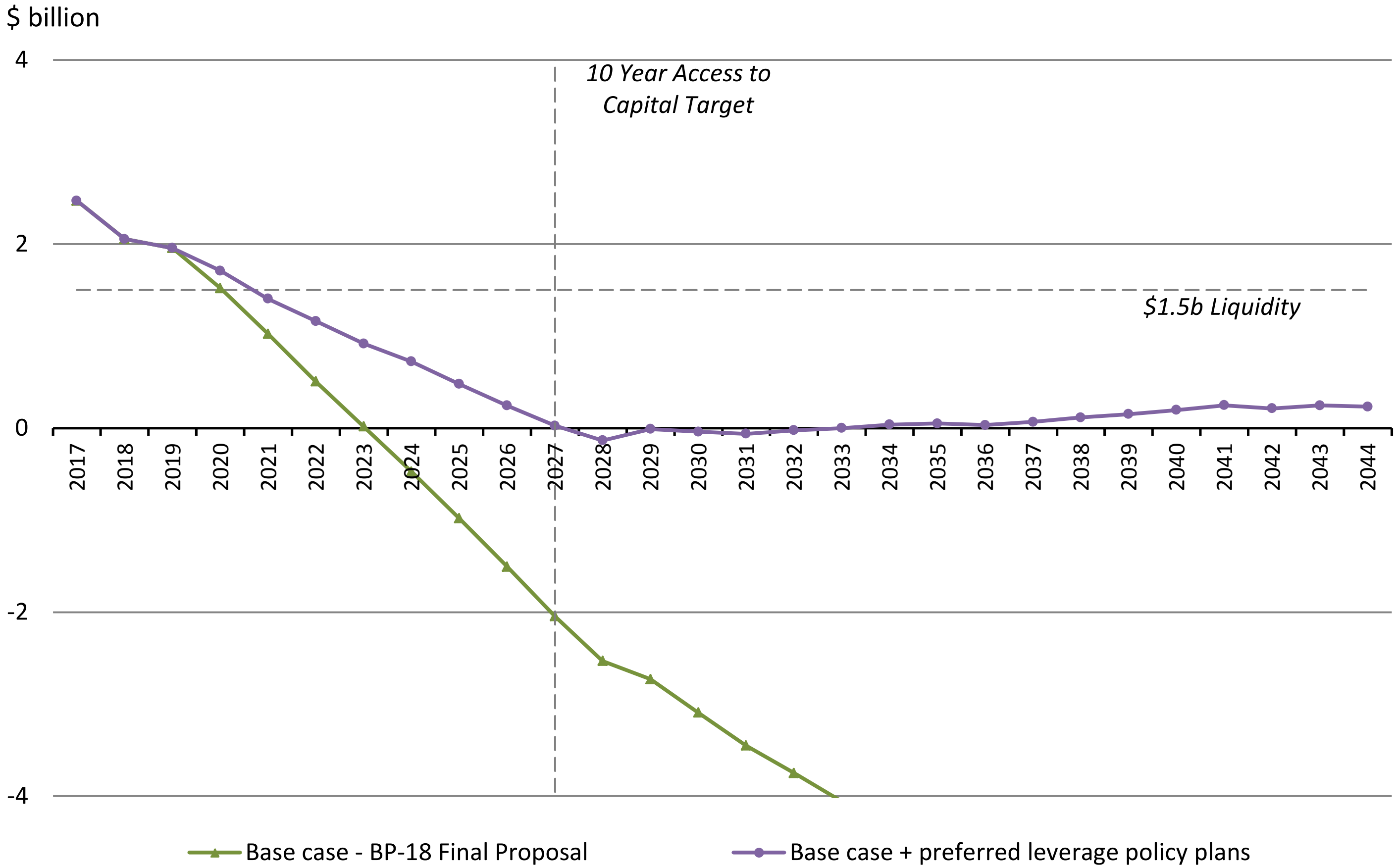
Power and Transmission Preferred 10 year plan



- Under the preferred scenario in the right-hand graph, Transmission preserves an additional ~$1.35 billion of borrowing authority compared to the base case through a combination of revenue financing and reducing its capital spending, which further reduces its use of debt – both of which preserve borrowing authority.

*Details of the preferred scenario can be found on slide 8 for Power and on slide 10 for Transmission

Financial metrics and highlights



- Under the current 10 year plan analyses, BPA would preserve approximately $2.4 billion in borrowing authority by the end of 2028 under the preferred Power and Transmission plans.
- BPA's strategic goal of maintaining $1.5 billion of borrowing authority is still not achieved with this preferred plan. BPA will host a public process in the coming months to determine how this additional strategic goal will be achieved.

Next steps

- BPA is seeking formal public comments or questions by May 11 on:
  1. Materials and concepts discussed.
  2. Preferred plans for Power and Transmission.
  3. Draft policy.
- Comments to be submitted to the BPA comment page (www.bpa.gov/goto/comment).
- BPA plans to publish a record of decision by the end of June.

Appendix

Additional scenario analyses

Power

2. Base Case + -$50m Capital

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$536m	$509m	$563m	$586m	$599m	$63m
Interest Repayment	$352m	$339m	$334m	$329m	$321m	-$32m
Debt Ratio	94.44%	93.10%	92.05%	88.13%	80.91%	$0m
Debt Ratio Change	N/A	-1.34%	-1.05%	-3.92%	-7.21%	N/A

Delta from Base Case

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$0m	-$1m	-$1m	-$2m	-$3m	-$3m
Interest Repayment	$0m	-$2m	-$7m	-$12m	-$17m	-$17m
Debt Ratio	0.00%	-0.06%	-0.16%	-0.35%	-0.76%	$0m
Rate Debt Ratio Change	N/A	$0m	$0m	$0m	$0m	N/A

3. Base Case + -1% change in interest rates

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$536m	$508m	$558m	$584m	$615m	$79m
Interest Repayment	$352m	$339m	$332m	$324m	$311m	-$41m
Debt Ratio	94.44%	93.20%	92.38%	88.71%	81.55%	$0m
Debt Ratio Change	N/A	-1.24%	-0.82%	-3.67%	-7.16%	N/A

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$0m	-$2m	-$7m	-$4m	$13m	$13m
Interest Repayment	$0m	-$3m	-$9m	-$16m	-$27m	-$27m
Debt Ratio	0.00%	0.03%	0.17%	0.24%	-0.12%	$0m
Rate Debt Ratio Change	N/A	$0m	$0m	$0m	$0m	N/A

Note: dollar figures represent average annual rate period amount, debt ratio represents end of rate period amount

- These tables highlight the sensitivity of capital spending and interest rates on Power’s debt-to-asset ratio.
- Highlights:
  - Roughly $600m change in capital spending (assuming it is all debt financed) results in ~1 percent change in the debt-to-asset ratio by 2028.
  - Interest rate changes have minimal effect on the debt-to-asset ratio.

Additional scenario analyses

Transmission

1. Base Case - Transmission BP-18 Final Proposal

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$247m	$265m	$291m	$309m	$341m	$94m
Interest Repayment	$156m	$203m	$245m	$279m	$317m	$161m
Debt Ratio	81.45%	83.55%	85.14%	86.67%	88.62%	N/A
Debt Ratio Change	N/A	2.10%	1.59%	1.53%	1.94%	N/A
% Cost Change*	N/A	6.4%	6.4%	4.5%	5.9%	N/A

Delta from Base Case

	18/19	20/21	22/23	24/25	26/27/28
Principal Repayment**	$0m	$0m	$0m	$0m	$0m
Interest Repayment	$0m	$0m	$0m	$0m	$0m
Debt Ratio	0%	0%	0%	0%	0%
Debt Ratio Change	N/A	N/A	N/A	N/A	N/A
% Change	N/A	0.0%	0.0%	0.0%	0%

3. Base Case + Flat Capital + 75% target by 2028

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$247m	$349m	$447m	$501m	$502m	$255m
Interest Repayment	$156m	$189m	$202m	$211m	$223m	$67m
Debt Ratio	82.18%	82.18%	80.34%	77.80%	75.00%	N/A
Debt Ratio Change	N/A	0.00%	-1.84%	-2.54%	-2.80%	N/A
% Cost Change*	N/A	13.3%	9.8%	4.9%	1.1%	N/A

	18/19	20/21	22/23	24/25	26/27/28
Principal Repayment**	$0m	$84m	$156m	$192m	$161m
Interest Repayment	$0m	-$14m	-$43m	-$68m	-$94m
Debt Ratio	0.73%	-1.37%	-4.80%	-8.88%	-13.62%
Debt Ratio Change	N/A	N/A	N/A	N/A	N/A
% Cost Change	N/A	7.0%	3.4%	0.4%	-4.9%

4. Base Case + Flat Capital + debt-to-asset ratio flat

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$247m	$348m	$373m	$393m	$416m	$170m
Interest Repayment	$156m	$189m	$207m	$225m	$247m	$91m
Debt Ratio	82.18%	82.18%	82.18%	82.18%	82.18%	N/A
Debt Ratio Change	N/A	0.00%	0.00%	0.00%	0.00%	N/A
% Cost Change*	N/A	13.3%	3.8%	3.2%	3.7%	N/A

	18/19	20/21	22/23	24/25	26/27/28
Principal Repayment**	$0m	$84m	$82m	$85m	$75m
Interest Repayment	$0m	-$14m	-$38m	-$54m	-$70m
Debt Ratio	0.73%	-1.37%	-2.96%	-4.49%	-6.43%
Debt Ratio Change	N/A	N/A	N/A	N/A	N/A
% Change	N/A	6.9%	-2.6%	-1.4%	-2.2%

5. Base Case + Flat Capital + debt-to-asset ratio decline 1%/yr

	18/19	20/21	22/23	24/25	26/27/28	$ Change
Principal Repayment	$247m	$426m	$456m	$481m	$510m	$263m
Interest Repayment	$156m	$184m	$195m	$205m	$217m	$60m
Debt Ratio	82.18%	80.18%	78.18%	76.18%	73.18%	$0m
Debt Ratio Change	N/A	-2.00%	-2.00%	-2.00%	-3.00%	N/A
% Cost Change*	N/A	20.5%	3.4%	2.7%	3.1%	N/A

	18/19	20/21	22/23	24/25	26/27/28
Principal Repayment**	$0m	$161m	$166m	$172m	$169m
Interest Repayment	$0m	-$19m	-$50m	-$74m	-$101m
Debt Ratio	1%	-3%	-7%	-10%	-15%
Debt Ratio Change	N/A	N/A	N/A	N/A	N/A
% Change	N/A	14.1%	-3.0%	-1.8%	-2.8%

* % Cost Change represents the percentage change in the rate period average revenue requirement from one rate period to the next - assumes 18/19 average IPR costs of $604m are constant across all years, adds to those costs the rate period average principal and interest amounts shown here to get the average revenue requirement per rate period - divide the % Cost Change by the number of years in the rate period to get roughly the annual percentage increase

Note: dollar figures represent average annual rate period amount, debt ratio represents end of rate period amount

**Equivalent to amount of revenue financing

Debt-to-asset ratio calculation detailed breakout

$ in millions	Fiscal Year 2017	
FCRPS	Debt	Assets
Federal system hydro generation assets		9,109
Transmission assets		9,526
Other assets		185
Completed plant		18,820
Federal system hydro generation assets		(3,355)
Transmission assets		(3,139)
Other assets		(94)
Accumulated depreciation		(6,588)
Federal system hydro generation assets		568
Transmission assets		606
Other assets		20
Construction work in progress		1,194
Net utility plant		**13,426**
Columbia Generating Station		3,443
Cowlitz Falls Hydro Project		76
Nonfederal generation		**3,519**
Unscheduled Appropriations	446	
Scheduled Appropriations	1,584	
Federal Appropriations	**2,029**	
Borrowings from U.S. Treasury	**5,009**	
EN Regional Cooperation Debt	5,736	
Cowlitz Falls Hydro Project	76	
Northern Wasco Hydro Project	13	
Lease-Purchase Program	2,131	
Other capital leases	39	
Customer Prepay power purchases	267	
Nonfederal Debt	**8,262**	
Total	15,300	16,944

Example of forecast debt-to-asset ratio calculation

(Total debt)/(Total revenue producing assets)

Transmission Example			
	2017*	2018**	2019**
Debt			
New Borrowing		490,808	506,577
Repayment		(241,284)	(252,320)
Total Debt	5,572,491	5,822,015	6,076,272
Assets			
Capital		505,808	521,577
Depreciation		(273,164)	(284,422)
Net Utility Plant	7,048,335	7,226,088	7,463,243
Debt-to-asset ratio (Total Debt/ Net Utility Plant)	**79.1%**	**80.6%**	**81.4%**

*end of year FY17 annual report and debt pie chart

** BP-18 Transmission revised revenue test