BONNEVILLE POWER ADMINISTRATION

BP-20 Rate Case Workshop: Revenue Requirement Follow-up

August 22, 2018

Overview

TRANSMISSION

- Follow-ups on BP-18 to BP-20 comparison
- Capital financing
- Depreciation
- Large Generator Interconnection Agreements (LGIA)

POWER

- Change in accounting treatment for non-federal debt

TRANSMISSION

Comparison to BP-18

			A	B
		(000's)	BP-18 Average	BP-20 Average
1	OPERATING EXPENSES			
2		TRANSMISSION OPERATIONS	167,529	166,365
3		TRANSMISSION ENGINEERING	57,034	56,708
4		TRANSMISSION MAINTENANCE INCLUDING ENVIRONMENT	177,353	174,501
5		TRANSMISSION ACQ & ANCILLARY SERVICES	115,722	136,726
6		BPA INTERNAL SUPPORT	94,773	94,015
7		OTHER INCOME, EXPENSES & ADJUSTMENTS	(8,043)	-
8		DEPRECIATION & AMORTIZATION	278,793	350,869
9	TOTAL OPERATING EXPENSES		883,160	979,185
10				
11	INTEREST EXPENSE			
12		INTEREST EXPENSE		
13		FEDERAL APPROPRIATIONS	1,588	386
14		CAPITALIZATION ADJUSTMENT	(18,968)	(18,968)
15		ON LONG-TERM DEBT	103,798	121,207
16		AMORTIZATION OF CAPITALIZED BOND PREMIUMS	561	559
17		DEBT SERVICE REASSIGNMENT INTEREST	9,538	4,411
18		NON-FEDERAL INTEREST (INCL CUSTOMER FUNDED)	87,354	100,943
19		PREMIUMS/DISCOUNTS	278	-
20		AFUDC	(24,776)	(19,490)
21		INTEREST INCOME	(3,176)	(5,253)
22	NET INTEREST EXPENSE		156,196	183,795
23				
24	TOTAL EXPENSES		1,039,356	1,162,980
25				
26	MINIMUM REQUIRED NET REVENUE		4,487	2,351
27	PLANNED NET REVENUES FOR RISK		-	-
28	TOTAL PLANNED NET REVENUE		4,487	2,351
29				
30	**TOTAL REVENUE REQUIREMENT**		**1,043,843**	**1,165,331**

Increase due to allocation of load following and imbalance costs moving to the RFR rate.

$26m due to amortization of I-5 Reinforcement regulatory asset. $46m due to new depreciation study and additional capital investments.

Increase due to additional capital investments and interest rates trending upward.

Increase due to additional capital investments and lease purchase program conversion of lines of credit to bonds.

Capital Financing

- The IPR repayment study assumed that Transmission capital investments would be financed with a combination of Treasury borrowing (~75%) and the lease purchase program (~25%). For 2020-2021 construction bonds, it averaged about $348 million of Treasury borrowing per year at approximately 4.7% and about $116 million per year through lease purchase at approximately 4%.
- These amounts are subject to change. Capital spending decisions have not been made. As discussed in the Capital Financing presentations, the lease purchase program may be reduced significantly or even discontinued.
- The key data point will be the initial proposal.
- Impact of ending the lease purchase program:
  - BPA could choose to not enter into new lease purchase agreements.
  - BPA would replace lease purchase with a combination of Treasury borrowing and Debt Service Reassignment (refinanced EN debt to support access to capital).
  - This would result in lease purchase interest expense plateauing and gradually declining as leases are paid off. Federal interest expense or Debt Service Reassignment interest expense would go up instead.

Transmission Depreciation

- Depreciation reflects the decrease in value of assets over time, due to wear and tear or obsolescence.
- The transmission revenue requirement includes depreciation calculated on all plant placed into service regardless of the source of financing, including customer financed investments. The only exception is for facilities funded by customers that are exclusively for their use.
- Depreciation Study:
  - Depreciation studies are conducted to ensure depreciation treatment is consistent with industry standards and to ensure costs are recovered over the life of the assets.
  - Depreciation is calculated on the original cost of an investment, reflecting any net salvage value, which is the cost of gross salvage (sale of scrap or reuse elsewhere in the enterprise) less the cost of removal.
  - Net salvage value can be positive or negative. A positive value reduces the amount that is depreciated. A negative value increases the amount that is depreciated.
  - The accrual rate from the depreciation study is used to forecast future depreciation. A rate exists for each FERC account which takes into account how much plant has already been depreciated and how much remains to be depreciated. (page VI-4 of the depreciation study)
  - Accrual rates can increase or decrease over time depending on changes in net salvage, expected service lives, and accrued depreciation.
  - In the latest depreciation study, implemented in March 2018, the major drivers for the changes were increasing cost of removal and an increased value of the asset base to be recovered.

I-5 Corridor Reinforcement Project Regulatory Asset

- BPA terminated the I-5 Corridor Reinforcement Project in FY 2017. The Administrator decided to defer the cost recovery associated with the project until BP-20 as a regulatory asset which is to be recovered over 5 years.
- BPA spent $130 million on the project between FY 2009 and FY 2017, which included costs for:
  - Public involvement
  - Environmental studies
  - Surveys & mapping
  - Preliminary design costs
- There is wide discretion in determining the amortization period of a regulatory asset. The useful life of the underlying asset is a consideration.
- The activities that make up the spending on the project have a very short useful life, typically 2-5 years.

LGIA

- The July 18th and July 25th workshop discussions on LGIA were referring to the same issue although using very different language.
- The revenue forecast includes revenues associated with LGIA credit projects. While we accrue these revenues, BPA does not actually receive any cash because the participants receive a credit on their bills to repay their contribution to construction.
- These LGIA revenues (equal to the credits) are factored into the cash analysis of the revenue requirement because they reduce cash flow from revenues.
- The cash analysis also recognizes expenses associated with LGIA, which include depreciation on the new assets and interest on the outstanding deposit balances. These are non-cash expenses.
- The cash analysis determines whether cash flows are sufficient to ensure debt repayment. If not, a net revenue target, minimum required net revenues, is added to the revenue requirement.
- The impact of LGIA on MRNR is equal to the LGIA revenues minus LGIA-related depreciation and interest on LGIA deposits.
- The following example is based on the FY 2016 revenue requirement and starts with the assumption that LGIA did not exist.

Step 1: Add Expenses Associated with LGIA

		2016	LGIA/COI Credits	2016
	INCOME STATEMENT	**No LGIA**	$39.503m	**W/ LGIA**
1	OPERATING EXPENSES			
2	TRANSMISSION OPERATIONS	155,274		155,274
3	TRANSMISSION ENGINEERING	54,421		54,421
4	TRANSMISSION MAINTENANCE INCLUDING ENVIRONMENT	162,552		162,552
5	TRANSMISSION ACQ & ANCILLARY SERVICES	140,767		140,767
6	BPA INTERNAL SUPPORT	82,038		82,038
7	OTHER INCOME, EXPENSES & ADJUSTMENTS	(2,100)		(2,100)
8	OTHER - USE OF RESERVES FOR RATE RELIEF	-		-
9	DEPRECIATION & AMORTIZATION	225,671	8,656	234,327
10	TOTAL OPERATING EXPENSES	818,623	8,656	827,279
11				
12	INTEREST EXPENSE			
13	INTEREST EXPENSE			
14	FEDERAL APPROPRIATIONS	14,386		14,386
15	CAPITALIZATION ADJUSTMENT	(18,968)		(18,968)
16	ON LONG-TERM DEBT	113,232		113,232
17	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	561		561
18	DEBT SERVICE REASSIGNMENT INTEREST	31,431		31,431
19	NON-FEDERAL INTEREST	46,909	5,616	52,525
20	PREMIUMS/DISCOUNTS	-		-
21	AFUDC	(42,886)		(42,886)
22	INTEREST INCOME	(9,197)		(9,197)
23	NET INTEREST EXPENSE	135,467	5,616	141,083
24				
25	TOTAL EXPENSES	954,091	14,272	968,363
26				
27	MINIMUM REQUIRED NET REVENUE 1/	80,694		80,694
28	PLANNED NET REVENUES FOR RISK	-		
29	TOTAL PLANNED NET REVENUE	80,694		80,694
30				
31	**TOTAL REVENUE REQUIREMENT**	1,034,785		1,049,057

Transmission credit projects result in cost increases: depreciation on the new plant and interest on the customer balance.

Before analyzing cash flow, the revenue requirement is already $14m higher.

Step 2: Add Cash Flow Elements of LGIA

	CASH FLOW STATEMENT	2016	LGIA/COI Credits	2016
		No LGIA	$39.503m	W/ LGIA
1	CASH FROM CURRENT OPERATIONS:			
2	MINIMUM REQUIRED NET REVENUE	80,694		80,694
3	DRAWDOWN OF CASH RESERVES FOR CAPITAL FUNDING	15,000		15,000
4	EXPENSES NOT REQUIRING CASH:			
5	DEPRECIATION & AMORTIZATION	225,671	8,656	234,327
6	TRANSMISSION CREDIT PROJECTS NET INTEREST	-	5,616	5,616
7	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	561		561
8	CAPITALIZATION ADJUSTMENT	(18,968)		(18,968)
9	NON-CASH REVENUES			
10	LGIA (INCL COI)	-	(39,503)	(39,503)
11	AC INTERTIE CO/FIBER	(6,853)		(6,853)
12	CASH PROVIDED BY CURRENT OPERATIONS	296,106		270,875
13				
14	CASH USED FOR CAPITAL INVESTMENTS:			
15	INVESTMENT IN:			
16	UTILITY PLANT	(655,150)		(655,150)
17	CASH USED FOR CAPITAL INVESTMENTS	(655,150)		(655,150)
18				
19	CASH FROM TREASURY BORROWING AND APPROPRIATIONS:			
20	INCREASE IN LONG-TERM DEBT	640,150		640,150
21	DEBT SERVICE REASSIGNMENT PRINCIPAL	(185,303)		(185,303)
22	REPAYMENT OF CAPITAL LEASES	(1,392)		(1,392)
23	REPAYMENT OF LONG-TERM DEBT	(19,500)		(19,500)
24	REPAYMENT OF CAPITAL APPROPRIATIONS	(74,910)		(74,910)
25	CASH FROM TREASURY BORROWING AND APPROPRIATIONS	359,044		359,044
26				
27	ANNUAL INCREASE (DECREASE) IN CASH	-		**(25,231)**
28	PLANNED NET REVENUES FOR RISK			
29	TOTAL ANNUAL INCREASE (DECREASE) IN CASH	-		**(25,231)**

MRNR is unchanged at this point so we can see the effect of LGIA.

Changes due to LGIA

FAILURE. Cash flows are negative which is not permissible. MRNR needs to be $25m higher.

Add MRNR to Pass Test

		2016
	INCOME STATEMENT	**Includes LGIA**
1	OPERATING EXPENSES	
2	TRANSMISSION OPERATIONS	155,274
3	TRANSMISSION ENGINEERING	54,421
4	TRANSMISSION MAINTENANCE INCLUDING ENVIRONMENT	162,552
5	TRANSMISSION ACQ & ANCILLARY SERVICES	140,767
6	BPA INTERNAL SUPPORT	82,038
7	OTHER INCOME, EXPENSES & ADJUSTMENTS	(2,100)
8	OTHER - USE OF RESERVES FOR RATE RELIEF	-
9	DEPRECIATION & AMORTIZATION	234,327
10	TOTAL OPERATING EXPENSES	827,279
11		
12	INTEREST EXPENSE	
13	INTEREST EXPENSE	
14	FEDERAL APPROPRIATIONS	14,386
15	CAPITALIZATION ADJUSTMENT	(18,968)
16	ON LONG-TERM DEBT	113,232
17	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	561
18	DEBT SERVICE REASSIGNMENT INTEREST	31,431
19	NON-FEDERAL INTEREST	52,525
20	PREMIUMS/DISCOUNTS	-
21	AFUDC	(42,886)
22	INTEREST INCOME	(9,197)
23	NET INTEREST EXPENSE	141,083
24		
25	TOTAL EXPENSES	968,363
26		
27	MINIMUM REQUIRED NET REVENUE 1/	105,925
28	PLANNED NET REVENUES FOR RISK	
29	TOTAL PLANNED NET REVENUE	105,925
30		
31	**TOTAL REVENUE REQUIREMENT**	1,074,288

Total revenue requirement increased by $25 million.

	CASH FLOW STATEMENT	**2016**
		Includes LGIA
1	CASH FROM CURRENT OPERATIONS:	
2	MINIMUM REQUIRED NET REVENUE	105,925
3	DRAWDOWN OF CASH RESERVES FOR CAPITAL FUNDING	15,000
4	EXPENSES NOT REQUIRING CASH:	
5	DEPRECIATION & AMORTIZATION	234,327
6	TRANSMISSION CREDIT PROJECTS NET INTEREST	5,616
7	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	561
8	CAPITALIZATION ADJUSTMENT	(18,968)
9	NON-CASH REVENUES	
10	LGIA (INCL COI)	(39,503)
11	AC INTERTIE CO/FIBER	(6,853)
12	CASH PROVIDED BY CURRENT OPERATIONS	296,106
13		
14	CASH USED FOR CAPITAL INVESTMENTS:	
15	INVESTMENT IN:	
16	UTILITY PLANT	(655,150)
17	CASH USED FOR CAPITAL INVESTMENTS	(655,150)
18		
19	CASH FROM TREASURY BORROWING AND APPROPRIATIONS:	
20	INCREASE IN LONG-TERM DEBT	640,150
21	DEBT SERVICE REASSIGNMENT PRINCIPAL	(185,303)
22	REPAYMENT OF CAPITAL LEASES	(1,392)
23	REPAYMENT OF LONG-TERM DEBT	(19,500)
24	REPAYMENT OF CAPITAL APPROPRIATIONS	(74,910)
25	CASH FROM TREASURY BORROWING AND APPROPRIATIONS	359,044
26		
27	ANNUAL INCREASE (DECREASE) IN CASH	-
28	PLANNED NET REVENUES FOR RISK	
29	TOTAL ANNUAL INCREASE (DECREASE) IN CASH	-

Cash flow is back in balance

POWER

Before & After Accounting Change

The accounting treatment for non-federal debt service will change. The following slides compare the current accounting with expected change. All values are subject to change.

			Power Income Statement						
				Current Accounting		New Accounting		Change	
				A	B	C	D	E	F
			($000s)	2020	2021	2020	2021	2020	2021
1 -15		IPR COSTS		1,546,711	1,599,408	1,546,711	1,599,408	-	-
16		NON-FEDERAL DEBT SERVICE		335,757	491,467	To be deleted		(335,757)	(491,467)
17		DEPRECIATION		139,221	141,185	139,221	141,185	-	-
18		AMORTIZATION		86,651	88,840	326,515	332,976	239,864	244,136
19	TOTAL OPERATING EXPENSES			2,108,339	2,320,899	2,012,446	2,073,568	(95,893)	(247,331)
20									
21	INTEREST EXPENSE:								
22		INTEREST							
23			APPROPRIATED FUNDS	55,777	55,376	55,777	55,376	-	-
24			CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)	(45,937)	(45,937)	-	-
25			BONDS ISSUED TO U.S. TREASURY	61,584	71,519	61,584	71,519	-	-
26			AMORTIZATION OF CAPITALIZED BOND PREMIUMS	-	-	-	-	-	-
27			NON-FEDERAL INTEREST	9,826	8,863	245,707	236,631	235,881	227,769
28		ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION		(13,413)	(14,083)	(13,413)	(14,083)	-	-
29		INTEREST CREDIT ON CASH RESERVES		(1,918)	(2,747)	(1,918)	(2,747)	-	-
30	NET INTEREST EXPENSE			65,919	72,991	301,800	300,760	235,881	227,769
31									
32	TOTAL EXPENSES			2,174,259	2,393,890	2,314,247	2,374,328	139,988	(19,562)
33									
34	MINIMUM REQUIRED NET REVENUE			196,670	70,968	56,682	90,530	(139,988)	19,562
35	PLANNED NET REVENUE FOR RISK			40,000	40,000	40,000	40,000	-	-
36	PLANNED NET REVENUE, TOTAL (34+35)			236,670	110,968	96,682	130,530	(139,988)	19,562
37									
38	**TOTAL REVENUE REQUIREMENT**			**2,410,929**	**2,504,858**	**2,410,929**	**2,504,858**	-	-

Before & After Accounting Change

	Power Statement of Cash Flows						
		Current Accounting		New Accounting		Change	
		A	B	C	D	E	F
	($000s)	2020	2021	2020	2021	2020	2021
1	CASH FROM OPERATING ACTIVITIES						
2	MINIMUM REQUIRED NET REVENUE 1/	196,670	70,968	56,682	90,530	(139,988)	19,562
3	NON-CASH ITEMS:						
4	NON-FEDERAL INTEREST	9,826	8,863	9,826	8,863	-	-
5	DEPRECIATION AND AMORTIZATION	225,872	230,025	465,736	474,160	239,864	244,136
6	NON-CASH EXPENSES	-	-	-	-	-	-
7	DSR REFINANCING FREE-UP	16,590	-	16,590	-	-	-
8	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	-	-	-	-	-	-
9	CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)	(45,937)	(45,937)	-	-
10	NON-CASH REVENUES	(30,600)	(30,600)	(30,600)	(30,600)	-	-
11	CASH PROVIDED BY OPERATING ACTIVITIES	372,421	233,318	472,297	497,016	99,876	263,698
12							
13	CASH FROM INVESTMENT ACTIVITIES						
14	INVESTMENT IN:						
15	UTILITY PLANT (INCLUDING AFUDC)	(293,470)	(316,349)	(293,470)	(316,349)	-	-
16	ENERGY EFFICIENCY					-	-
17	FISH & WILDLIFE	(47,266)	(47,266)	(47,266)	(47,266)	-	-
18	CASH USED FOR INVESTMENT ACTIVITIES	(340,736)	(363,615)	(340,736)	(363,615)	-	-
19							
20	CASH FROM BORROWING AND APPROPRIATIONS:						
21	INCREASE IN BONDS ISSUED TO U.S. TREASURY	226,940	327,479	226,940	327,479	-	-
22	REPAYMENT OF BONDS ISSUED TO U.S. TREASURY	(139,100)	(218,571)	(139,100)	(218,571)	-	-
23	INCREASE IN FEDERAL CONSTRUCTION APPROPRIATIONS	31,796	36,136	31,796	36,136	-	-
24	REPAYMENT OF FEDERAL CONSTRUCTION APPROPRIATIONS	(40,002)	-	(40,002)	-	-	-
25	REPAYMENT OF NON-FEDERAL OBLIGATIONS	(169,000)	-	(268,876)	(263,698)	(99,876)	(263,698)
26	CUSTOMER PROCEEDS	82,000	-	82,000	-	-	-
27	PAYMENT OF IRRIGATION ASSISTANCE	(24,319)	(14,747)	(24,319)	(14,747)	-	-
28	CASH PROVIDED BY BORROWING AND APPROPRIATIONS	(31,685)	130,297	(131,561)	(133,401)	(99,876)	(263,698)
29							
30	ANNUAL INCREASE (DECREASE) IN CASH	-	-	-	-	-	-
31							
32	PLANNED NET REVENUE FOR RISK	40,000	40,000	40,000	40,000	-	-
33							
34	TOTAL ANNUAL INCREASE (DECREASE) IN CASH	40,000	40,000	40,000	40,000	-	-

1/ Minimum required net revenues are added to ensure suffcient cash flow is available to repay the federal investment.

Before & After Accounting Change

This view of the MRNR calculation focuses on the essential elements in the comparison of cash generated from operations and expected debt payments. It strips out the funds used for capital investment and the funds raised by borrowing since they net to zero.

		Current Accounting		New Accounting		Change	
	MRNR Calculation						
		A	**B**	**C**	**D**	**E**	**F**
		2020	**2021**	**2020**	**2021**	**2020**	**2021**
1	CASH FROM OPERATIONS						
2	NON-FEDERAL INTEREST	9,826	8,863	9,826	8,863	-	-
3	DEPRECIATION AND AMORTIZATION	225,872	230,025	465,736	474,160	239,864	244,136
4	NON-CASH EXPENSES	-	-	-	-	-	-
5	DSR REFINANCING FREE-UP	16,590	-	16,590	-	-	-
6	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	-	-	-	-	-	-
7	CAPITALIZATION ADJUSTMENT	(45,937)	(45,937)	(45,937)	(45,937)	-	-
8	NON-CASH REVENUES	(30,600)	(30,600)	(30,600)	(30,600)	-	-
9		175,751	162,350	415,615	406,486	239,864	244,136
10							
11	USES OF CASH						
12	REPAYMENT OF BONDS ISSUED TO U.S. TREASURY	(139,100)	(218,571)	(139,100)	(218,571)	-	-
13	REPAYMENT OF FEDERAL CONSTRUCTION APPROPRIATIONS	(40,002)	-	(40,002)	-	-	-
14	REPAYMENT OF NON-FEDERAL OBLIGATIONS	(169,000)	-	(268,876)	(263,698)	(99,876)	(263,698)
15	PAYMENT OF IRRIGATION ASSISTANCE	(24,319)	(14,747)	(24,319)	(14,747)	-	-
16		(372,421)	(233,318)	(472,297)	(497,016)	(99,876)	(263,698)
17							
18	DIFFERENCE (pos reduces MRNR; neg increases MRNR)	(196,670)	(70,968)	(56,682)	(90,530)	139,988	(19,562)

Financial Disclosure

This information was publicly available on August 22, 2018, and contains information not sourced directly from BPA financial statements.