

Rural Electric Cooperative Fundamentals

Beartooth Electric Cooperative

April, 2018

KW Consulting

Planning Processes and BEC (300 Policies)

- Long Range Plan
- Load Forecast
- 4-yr Work Plans (i.e. Solar)
- Annual Budget
- Financial Forecast (“Model”)
- COSA

ASSETS AND OTHER DEBITS		LIABILITIES AND OTHER CREDITS	
1. Total Utility Plant in Service.....	31,618,421	30. Memberships.....	0
2. Construction Work in Progress.....	76,185	31. Patronage Capital.....	6,431,101
3. Total Utility Plant (1 + 2).....	31,694,606	32. Operating Margins - Prior Years.....	0
4. Accum. Provision for Depreciation and Amort.....	15,265,607	33. Operating Margins - Current Year.....	548,692
5. Net Utility Plant (3 - 4).....	16,428,999	34. Non-Operating Margins.....	382,352
6. Non-Utility Property - Net.....	0	35. Other Margins and Equities.....	154,431
7. Investments In Subsidiary Companies.....	0	36. Total Margins and Equities (30 thru 35).....	7,516,576
8. Invest. In Assoc. Org. - Patronage Capital.....	429,579	37. Long-Term Debt - RUS (Net).....	452,720
9. Invest. In Assoc. Org. - Other - General Funds.....	0	38. Long-Term Debt - FFB - RUS Guaranteed.....	6,727,582
10. Invest. In Assoc. Org. - Other -Nongeneral Funds.....	289,007	39. Long-Term Debt - Other - RUS Guaranteed.....	0
11. Investments In Economic Development Projects.....	0	40. Long-Term Debt - Other (Net).....	5,730,769
12. Other Investments.....	0	41. Long-Term Debt - RUS - Econ. Devel. (Net).....	0
13. Special Funds.....	0	42. Payments-Unapplied	(2,363,768)
14. Total Other Property and Investments (6 thru 13).....	718,586	43. Total Long-Term Debt (37 thru 41-42).....	10,547,303
15. Cash - General Funds.....	395,237	44. Obligations Under Capital Leases-Noncurrent.....	0
16. Cash - Construction Fund - Trustee.....	1	45. Accumulated Operating Provisions.....	0
17. Special Deposits.....	0	and Asset Retirement Obligations	
18. Temporary Investments.....	329,498	46. Total Other Noncurrent Liabilities (44+45).....	0
19. Notes Receivable (Net).....	0	47. Notes Payable.....	0
20. Accounts Receivable - Sales of Energy (Net).....	947,009	48. Accounts Payable.....	424,970
21. Accounts Receivable - Other (Net).....	(7,158)	49. Consumers Deposits.....	49,094
22. Renew able Energy Credits.....	0	50. Current Maturities Long-Term Debt.....	0
23. Materials and Supplies - Electric and Other.....	462,712	51. Current Maturities Long-Term Debt-Ec.Dev.....	0
24. Prepayments.....	7,254	52. Current Maturities Capital Leases.....	0
25. Other Current and Accrued Assets.....	3,626	53. Other Current and Accrued Liabilities.....	423,078
26. Total Current and Accrued Assets (15 thru 25).....	2,138,179	54. Total Current and Accrued Liabilities (47 thru 53).....	897,142
27. Regulatory Assets.....	705,254	55. Regulatory Liabilities.....	0
28. Other Deferred Debits.....	108,313	56. Other Deferred Credits.....	1,138,310
29. Total Assets and Other Debits (5+14+26 thru 28).....	20,099,331	57. Total Liabilities and Other Credits	
		(36+43+46+54 thru 56).....	20,099,331

BEC Balance Sheet

<i>Assets</i>			<i>Equity</i>
Plant	\$	82	\$ 37
			<i>Debt (Liabilities)</i>
Cash"ish"	\$	18	\$ 63
	\$	100	\$ 100

Financial Statistics

- Debt Service Coverage – measures your system’s ability to make your debt payment and still have adequate margins after that payment

Year	System Value	US Total			State Grouping			Consumer Size			Major Current Power Supplier			Plant Growth (2011-2016)		
		Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank
RATIO 12 -- DEBT SERVICE COVERAGE (DSC)																
2012	-0.97	2.08	813	813	2.08	23	23	1.99	94	94	0.49	5	5	2.04	76	76
2013	1.34	2.13	815	774	1.74	23	18	2.11	93	87	-0.30	5	1	2.05	104	98
2014	1.59	2.09	813	701	1.63	23	14	2.10	88	76	1.44	5	1	2.03	117	98
2015	2.10	2.02	811	362	1.88	23	8	2.03	88	38	1.57	5	1	1.94	117	45
2016	2.29	2.06	809	302	2.10	23	8	2.07	86	33	2.29	5	3	2.12	140	58

- BEC has made huge strides in improving this ratio; within the state and the nation as well
- Remember, the model shows you may drop below the 1.25 perimeter (only for one year; and still within the high 2 of 3 years)

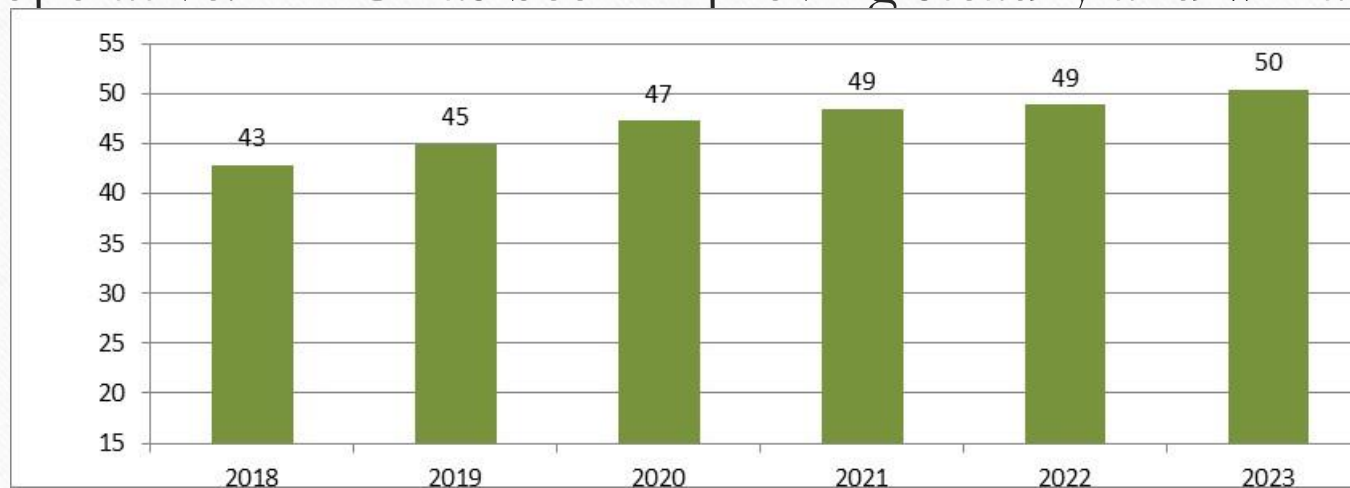
Financial Statistics

Year	System Value	US Total			State Grouping			Consumer Size			Major Current Power Supplier			Plant Growth (2011-2016)		
		Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank

RATIO 16 — EQUITY AS A % OF ASSETS

2012	21.17	42.95	813	792	43.02	23	23	43.21	94	93	27.81	5	5	45.71	76	76
2013	24.30	43.00	815	776	39.00	23	20	45.80	93	88	24.30	5	3	44.13	104	101
2014	27.02	43.92	813	759	44.01	23	20	46.97	88	81	27.02	5	3	44.69	117	109
2015	30.33	44.23	811	738	42.79	23	18	46.03	88	79	30.33	5	3	43.57	117	114
2016	35.10	44.83	809	663	45.75	23	17	45.32	86	70	35.10	5	3	45.25	140	124

- Equity as % of Assets – measures the claim the owners (members) have on the cooperative. BEC has been improving steadily and will as per the model



Financial Statistics

Year	System Value	US Total			State Grouping			Consumer Size			Major Current Power Supplier			Plant Growth (2011-2016)		
		Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank
RATIO 26 -- CUMULATIVE PATRONAGE CAPITAL RETIRED AS A % OF TOTAL PATRONAGE CAPITAL																
2012	37.23	25.25	697	137	35.37	22	8	28.10	76	20	30.57	5	2	24.81	66	15
2013	34.59	25.24	704	172	35.98	21	14	28.50	74	24	36.92	4	3	25.68	95	25
2014	32.22	25.58	704	207	36.29	21	14	28.49	73	31	34.25	4	3	26.00	110	33
2015	30.63	26.18	704	266	36.53	21	18	31.48	71	38	32.49	4	4	27.74	110	47
2016	29.58	26.76	704	286	35.36	21	16	30.41	71	38	29.06	4	2	28.61	126	59

- Capital Credit Retirements – BEC has been retiring the “debt to the members (aka capital credits)” at the same rate as they are retiring their outside debt (RUS, CFC). Substantial improvement over the past 5 years and projected in the model to continue retiring \$2.5M to members between now and 2023.

Capital Credits – Allocation Considerations



Allocation on total *dollar (revenue)* basis – makes the assumption each class of consumer contributes uniformly to the margins:

<i>Allocation on Dollar (aka Revenue) basis</i>			
	Residential	Lg. Commercial	Total
Revenue	\$ 100,000	\$ 200,000	\$ 300,000
kWh sold	1,430,000	5,000,000	6,430,000
COP	\$ 71,500	\$ 145,000	\$ 216,500
O & M/A & G/CSR	\$ 12,000	\$ 24,000	\$ 36,000
Fixed	\$ 15,000	\$ 30,000	\$ 45,000
Margin	\$ 1,500	\$ 1,000	\$ 2,500
Margin/Revenue	\$ 0.0150	\$ 0.0050	\$ 0.0083
Rate of Ret. On Rev.	1.50%	0.50%	0.83%
Allocating on \$ basis	\$ 833.33	\$ 1,666.67	\$ 2,500

RUS Guidelines for Allocation on a Dollar (Revenue) basis:

The procedure for determining the amount of patronage capital assignable to the individual patron on a total dollar basis is as follows:

1. Determine the total amount to be assigned for the year (Account 201.2).
2. Determine patronage from electric service, the total of consumers' billings (Accounts 440-447).
3. Determine the percentage factor to be used in calculating patronage capital to be credited to each consumer account. Divide "1" by "2".
4. Determine the amount of capital to be credited to each consumer. Multiply the individual consumer's billings for the year by the percentage factor obtained in "3" above.

Source:

http://rurdev.sc.egov.usda.gov/SupportDocuments/UEP_Bulletin_1767B-1

Capital Credits – Allocation Considerations



Allocation on Revenue less COP basis:

<i>Allocation on Revenue less COP basis</i>			
	Residential	Lg. Commercial	Total
Revenue	\$ 100,000	\$ 200,000	\$ 300,000
kWh sold	1,430,000	5,000,000	6,430,000
COP	\$ 71,500	\$ 145,000	\$ 216,500
Gross Margin	\$ 28,500	\$ 55,000	\$ 83,500
O & M/A & G/CSR	\$ 12,000	\$ 24,000	\$ 36,000
Fixed	\$ 15,000	\$ 30,000	\$ 45,000
Margin	\$ 1,500	\$ 1,000	\$ 2,500
Gross Margin/Revenue	\$ 0.0526	\$ 0.0182	\$ 0.0299
Rate of Ret. On Rev.	1.50%	0.50%	0.83%
Allocating on Gross Margin	\$ 853.29	\$ 1,646.71	\$ 2,500

Capital Credits – Allocation Considerations



Allocation on kWh sold basis:

<i>Allocation on kWh sold basis</i>			
	Residential	Lg. Commercial	Total
Revenue	\$ 100,000	\$ 200,000	\$ 300,000
kWh sold	1,430,000	5,000,000	6,430,000
COP	\$ 71,500	\$ 145,000	\$ 216,500
O & M/A & G/CSR	\$ 12,000	\$ 24,000	\$ 36,000
Fixed	\$ 15,000	\$ 30,000	\$ 45,000
Margin	\$ 1,500	\$ 1,000	\$ 2,500
Margin/kwh	\$ 0.0105	\$ 0.0002	\$ 0.0004
Rate of Ret. On Rev.	1.50%	0.50%	0.83%
Allocating on kWh basis	\$ 555.99	\$ 1,944.01	\$ 2,500

Capital Credits – Allocation Considerations



Allocation on contributed margin basis:

Allocation on Contributed Margin basis			
	Residential	Lg. Commercial	Total
Revenue	\$ 100,000	\$ 200,000	\$ 300,000
kWh sold	1,430,000	5,000,000	6,430,000
COP	\$ 71,500	\$ 145,000	\$ 216,500
O & M/A & G/CSR	\$ 12,000	\$ 24,000	\$ 36,000
Fixed	\$ 15,000	\$ 30,000	\$ 45,000
Margin	\$ 1,500	\$ 1,000	\$ 2,500
Margin/Revenue	\$ 0.0150	\$ 0.0050	\$ 0.0083
Rate of Ret. On Rev.	1.50%	0.50%	0.83%
Allocating on COSA basis	\$ 1,500.00	\$ 1,000.00	\$ 2,500

End results – you choose!

	Residential	Lg. Commercial	Total
Allocated on Revenue basis	\$ 833.33	\$ 1,666.67	\$ 2,500.00
Allocated on Rev - COP basis	\$ 853.29	\$ 1,646.71	\$ 2,500.00
Allocated on kWh sold basis	\$ 555.99	\$ 1,944.01	\$ 2,500.00
Allocated on COSA basis	\$ 1,500.00	\$ 1,000.00	\$ 2,500.00

Capital Credit Retirements:

FIFO

LIFO

%

Dutch Auctions

Discounting

FISH/FIDO



- Establish what you want to accomplish with your capital credit retirement. Loyalty? Understanding of cooperative philosophy? Movement of ownership with those receiving service?
- Decide what your member base is and a lot of these questions will be answered.

Financial Statistics

Year	System Value	US Total			State Grouping			Consumer Size			Major Current Power Supplier			Plant Growth (2011-2016)		
		Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank
RATIO 30 -- GENERAL FUNDS PER TUP (%)																
2012	4.91	4.16	813	355	5.21	23	13	5.14	94	49	5.98	5	4	4.88	76	37
2013	2.10	3.98	815	588	5.63	23	19	4.93	93	73	3.01	5	4	4.56	104	75
2014	0.67	3.95	813	749	3.09	23	23	4.67	88	86	2.22	5	5	4.08	117	112
2015	0.81	4.05	811	730	4.10	23	22	4.79	88	80	1.28	5	4	3.31	117	106
2016	3.19	3.95	809	462	3.98	23	14	5.24	86	58	2.39	5	2	3.71	140	78

- General Funds Level – ideally, BEC doesn't want a bunch of cash with minimal value sitting around. The model has successfully utilized \$500,000 as a minimum level for operations. Seems to be working and allows BEC to be within “sound practices” arena.

Financial Statistics

Year	System Value	US Total			State Grouping			Consumer Size			Major Current Power Supplier			Plant Growth (2011-2016)		
		Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank
RATIO 97 — ACCUMULATIVE DEPRECIATION AS A % OF PLANT IN SERVICE																
2012	44.36	31.48	813	74	43.98	23	10	33.23	94	8	42.42	5	2	35.15	76	18
2013	44.20	31.62	815	87	44.22	23	13	33.29	93	12	43.83	5	2	35.01	104	21
2014	43.47	31.97	813	99	44.66	23	13	34.07	88	10	41.78	5	2	34.19	117	17
2015	45.46	32.25	811	73	43.64	23	10	33.95	88	7	43.24	5	2	33.24	117	14
2016	46.70	32.49	809	54	43.67	23	9	34.06	86	6	43.67	5	2	35.03	140	17

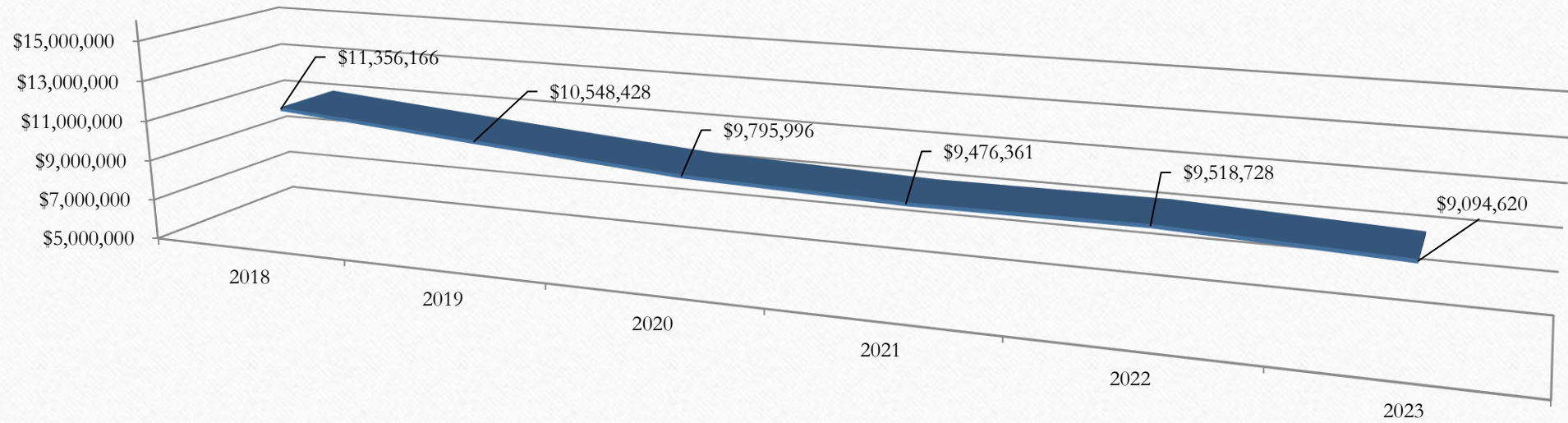
- Accumulated Depreciation – high within the nation, middle within the state. Perhaps indicative of aging infrastructure in Montana. BEC has a capital budget in place to keep addressing this. What this ratio is saying is “47% of our plant is old”. Montana needs to be aware and move to get this improved.

Financial Statistics

Year	System Value	US Total			State Grouping			Consumer Size			Major Current Power Supplier			Plant Growth (2011-2016)		
		Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank	Median	NBR	Rank
RATIO 21 -- LONG TERM DEBT PER CONSUMER (\$)																
2012	2,356.10	2,142.33	807	345	2,167.83	23	10	2,574.44	94	54	2,379.39	5	4	1,906.57	76	21
2013	2,177.45	2,276.62	809	442	2,177.45	23	12	2,620.98	93	59	2,368.71	5	4	2,077.02	104	46
2014	2,043.15	2,293.78	806	494	2,101.96	23	14	2,608.14	88	64	2,179.99	5	4	2,028.23	117	58
2015	1,969.67	2,361.73	805	527	2,359.87	23	14	2,917.60	88	70	2,359.87	5	4	2,049.96	116	63
2016	1,838.92	2,420.17	803	563	2,357.16	23	17	2,876.43	86	70	2,158.42	5	4	2,068.51	139	80
RATIO 23 -- BLENDED INTEREST RATE (%)																
2012	4.74	4.61	806	346	4.74	23	12	4.41	94	31	4.83	5	4	5.03	76	48
2013	4.73	4.47	808	275	4.21	23	7	4.24	93	21	4.73	5	3	4.70	104	51
2014	4.73	4.28	806	210	4.28	23	4	4.12	88	15	4.57	5	2	4.47	117	44
2015	4.66	4.13	804	196	4.01	23	4	3.99	88	14	4.43	5	2	4.35	117	45
2016	4.98	4.06	801	93	3.82	23	2	3.90	86	10	4.31	5	1	4.15	139	24

- Debt Portfolio – excellent improvement. The model shows it will improve even more.

Debt Portfolio



PART A. STATEMENT OF OPERATIONS				
ITEM	YEAR-TO-DATE			
	LAST YEAR	THIS YEAR	BUDGET	THIS MONTH
	(a)	(b)	(c)	(d)
1. Operating Revenue and Patronage Capital.....	8,956,007	8,702,177	8,407,963	834,852
2. Power Production Expense.....	0	0	0	0
3. Cost of Purchased Power.....	3,022,654	3,139,385	3,031,756	318,373
4. Transmission Expense.....	8,618	6,579	7,799	471
5. Regional Marketing Expense.....	0	0	0	0
6. Distribution Expense-Operation.....	937,978	1,043,101	864,414	111,640
7. Distribution Expense-Maintenance.....	525,869	713,106	521,710	22,618
8. Consumer Accounts Expense.....	277,080	294,490	257,816	25,382
9. Customer Service and Informational Expense.....	80,056	100,781	48,381	26,972
10. Sales Expense.....	16,742	10,636	13,800	0
11. Administrative and General Expense.....	1,277,886	1,298,096	1,292,112	132,068
12. Total Operation and Maintenance Expense (2 thru 11).....	6,146,883	6,606,174	6,037,788	637,524
13. Depreciation and Amortization Expense.....	967,890	987,356	1,020,000	82,519
14. Tax Expense - Property and Gross Receipts.....	0	0	0	0
15. Tax Expense - Other.....	2,232	2,149	2,811	205
16. Interest on Long-Term Debt.....	596,227	554,960	546,594	50,005
17. Interest Charged to Construction - Credit.....	0	0	0	0
18. Interest Expense - Other.....	4,076	1,046	1,200	82
19. Other Deductions.....	1,800	1,800	1,800	150
20. Total Cost of Electric Service (12 thru 19).....	7,719,108	8,153,485	7,610,193	770,485
21. Patronage Capital and Operating Margins (1 minus 20).....	1,236,899	548,692	797,770	64,367
22. Non Operating Margins - Interest.....	14,872	43,842	13,000	11,647
23. Allowance for Funds Used During Construction.....	0	0	0	0
24. Income (Loss) from Equity Investments.....	0	0	0	0
25. Non Operating Margins - Other.....	99,733	7,189	(1,186)	296
26. Generation and Transmission Capital Credits.....	0	0	0	0
27. Other Capital Credits and Patronage Dividends.....	64,434	42,312	52,000	6,959
28. Extraordinary Items.....	0	0	0	0
29. Patronage Capital or Margins (21 thru 28).....	1,415,938	642,035	861,584	83,269

BEC Operating Statement

Revenue	\$	100
Cop	\$	36
O & M	\$	20
Csr/A&G	\$	20
Fixed	\$	18
Operating Margins	\$	6
Non-Operating Margins	\$	1
Margins	\$	7

Operational Statistics

- Accounts Receivable Turnover = $\$8,702,177 \div 365 = \$23,841$ ave daily billing Receivables: $\$947,009 \div \$23,841 = 40$
Days outstanding
- System Losses
- Inventory Turnover
- Open Work Orders
- Capitalization Ratio
- Idle Services
- Outages
- Cost per Director
- Cost per Employee
- Overtime Percentage