

Docket No. E-111/GR-14-482

Exhibit__ (DEA-2)
Determination of Revenue
Requirements

**Determination of Revenue
Requirements - Summary**

(a)	(b)	(c)	(d)	(e)
Line No.	Description	2013 Actual	Present Rates Pro Forma Test Year	Proposed Rates Pro Forma Test Year
Financial Results From Rates		(\$)	(\$)	(\$)
1	Total Revenue ¹	193,896,154	199,564,247	203,699,381
2	Operating Expense ¹	186,252,480	192,961,304	192,961,304
3	Net Operating Income (before interest expense) ²	7,643,674	6,602,943	10,738,077
4	Capital Credits ³	8,694,772	8,694,772	8,694,772
5	Other Non-Operating Income ³	399,147	399,147	399,147
6	Total Margin (before interest expense) ⁴	16,737,593	15,696,862	19,831,996
Required Increase (Decrease) --ROR Objective				
7	Operating Expense (excluding interest) ¹	186,252,480	192,961,304	192,961,304
8	Margin Requirements			
9	Rate Base ⁵	171,613,635	171,613,635	171,613,635
10	Rate of Return ⁶	6.52%	6.52%	6.52%
11	Required Return ⁷	11,191,322	11,191,322	11,191,322
12	Less: Non-Operating Income ³	399,147	399,147	399,147
13	Net Operating Income Required ⁸	10,792,175	10,792,175	10,792,175
14	Total Revenue Requirements ⁹	197,044,655	203,753,479	203,753,479
15	Revenue Present Rates			
16	Tariff Revenue ¹	193,604,527	198,872,121	203,007,255
17	Other Operating Revenue ¹	291,627	692,126	692,126
18	Total Revenue ¹⁰	193,896,154	199,564,247	203,699,381
19	Required Increase (Decrease) ¹¹	3,148,501	4,189,232	54,098
20	Percent Increase (Decrease) ¹²	1.63	2.11	0.03

¹ See Exhibit__(DEA-1).

² Line 1 minus Line 2.

³ See Workpaper 1.

⁴ Line 3 plus Line 4 plus Line 5.

⁵ See Exhibit__(DEA-2), page 2.

⁶ See Exhibit__(DEA-2), page 8.

⁷ Line 9 times Line 10.

⁸ Line 11 minus Line 12.

⁹ Line 7 plus Line 13.

¹⁰ Line 16 plus Line 17.

¹¹ Line 14 minus Line 18.

¹² Line 19 divided by Line 16.

Rate Base

(a)	(b)	(c)
Line No.	Description	Proposed Pro Forma Test Year
		(\$)
1	Utility Plant in Service ¹	259,168,736
2	Construction Work in Progress ¹	5,053,958
3	Less: Accumulated Provision for Deprec. ¹	104,266,354
4	Net Plant ¹	159,956,340
5	Materials & Supplies - Electric ²	5,229,359
6	Working Capital ³	6,987,282
7	Subtotal	12,216,641
8	Less: Consumer Deposits ¹	559,346
9	Total Rate Base	171,613,635

¹ December 31, 2013 Form 7 amount. See Workpaper 1.

² Thirteen - month average. See Exhibit__(DEA-2), page 3.

³ Per Lead Lag Study, Exhibit__(DEA- 9).

**Rate Base Calculations
Materials & Supplies**

(a) Line No.	(b) Month	(c) Materials & Supplies Electric ¹
		(\$)
1	Dec 2012	4,159,614
2	Jan 2013	4,458,438
3	Feb 2013	4,461,285
4	Mar 2013	5,042,583
5	Apr 2013	5,806,197
6	May 2013	5,984,455
7	Jun 2013	5,772,141
8	Jul 2013	5,816,554
9	Aug 2013	5,530,306
10	Sep 2013	5,652,840
11	Oct 2013	5,228,163
12	Nov 2013	5,026,491
13	Dec 2013	5,042,605
14	Total	67,981,672
15	13 - Month Average	5,229,359

¹ Inventory accounts 13110 through 13320 from December 31, 2013 year end General Ledger.

Cost of Debt

(a) Line No.	(b) Description	(c) Interest Rate	(d) Estimated Balance	(e) Annualized Interest Expense ¹	(f) Target Debt	(g) Cost of Debt	(h) Weighted Cost of Debt
		(%)	(\$)	(\$)	(%)	(%)	(%)
	Long Term Debt						
1	CFC	5.802%	181,168	10,512			
2	CFC	7.012%	567,389	39,787			
3	CFC	5.802%	776,170	45,035			
4	CFC	7.012%	3,174,311	222,590			
5	CFC	6.012%	4,839,576	290,967			
6	CFC	6.012%	1,651,381	99,285			
7	CFC	6.112%	1,658,518	101,373			
8	CFC	5.812%	1,622,941	94,329			
9	CFC	4.612%	4,749,219	219,046			
10	CFC	4.612%	155,541	7,174			
11	CFC	4.262%	3,089,706	131,691			
12	CFC	6.112%	3,147,980	192,412			
13	CFC	4.312%	625,292	26,964			
14	CFC	6.112%	2,393,131	146,274			
15	CFC	3.612%	683,234	24,680			
16	CFC	5.212%	2,349,062	122,439			
17	CFC	3.812%	2,211,836	84,321			
18	CFC	4.012%	2,768,336	111,072			
19	CFC	6.912%	3,073,149	212,424			
20	CFC	7.012%	4,000,000	280,490			
21	CFC	5.162%	367,924	18,993			
22	CFC	6.362%	12,000,000	763,469			
23	CFC	7.162%	5,000,000	358,112			
24	CFC	3.062%	1,579,497	48,368			
25	CFC	6.212%	4,000,000	248,490			
26	CFC	6.262%	4,760,177	298,094			
27	CFC	6.012%	4,775,475	287,113			
28	CFC	6.162%	2,603,819	160,454			
29	CFC	4.212%	2,539,459	106,968			
30	CFC/Farmer Mac	4.250%	3,193,469	135,722			
31	CFC/Farmer Mac	3.830%	2,983,381	114,263			
32	CFC/Farmer Mac	3.970%	1,551,284	61,586			
33	CoBank	4.350%	3,680,192	160,088			
	Total Long Term Debt 12/31/2013 ²		92,752,617	5,224,585	60%	5.63%	3.38%
5	CFC	6.012%	(4,839,576)	(290,967)			
6	CFC	6.012%	(1,651,381)	(99,285)			
13	CFC	4.312%	(625,292)	(26,964)			
34	CoBank	2.590%	7,100,000	183,890			
35	CoBank	4.101%	5,600,000	229,656			
	New and Refinanced Debt as of 1/7/2014		5,583,751	(3,670)			
	Total Long Term Debt 1/7/2014 ³		98,336,368	5,220,915	60%	5.31%	3.19%

¹ The Annualized Interest Expense is based on the Estimated Loan Balance multiplied by the loan interest rate.

² Equals Form 7, Part C, Line 38 (Long Term Debt) plus Line 45 (Current Portion) 87,146,438 + 5,606,179 = 92,752,617

³ Equals Long Term Debt plus Current Portion 92,610,573 + 5,725,795 = 98,336,368

Historic Total Capitalization

(a) Line No.	(b) Year	(c) Equity	(d) Debt	(e) Total Capitalization ¹ (\$)
1	1998	47,724,259	89,235,673	136,959,932
2	1999	47,523,140	86,467,753	133,990,893
3	2000	48,277,127	86,508,221	134,785,348
4	2001	52,338,198	84,148,127	136,486,325
5	2002	56,192,068	91,885,042	148,077,110
6	2003	59,702,313	92,300,874	152,003,187
7	2004	60,411,502	104,332,408	164,743,910
8	2005	69,656,348	100,360,082	170,016,430
9	2006	81,417,061	101,287,278	182,704,339
10	2007	89,428,738	107,146,528	196,575,266
11	2008	94,900,838	107,846,291	202,747,129
12	2009	100,631,181	114,660,602	215,291,783
13	2010	109,245,168	115,021,054	224,266,222
14	2011	119,055,182	112,770,620	231,825,802
15	2012	127,764,369	98,368,388	226,132,757
16	2013	136,837,360	92,752,617	229,589,977

The mean growth rate in Total Capitalization is estimated to be:

$$2008 - 2013 = 2.52\%$$

Total Capitalization figures represent Margins & Equities plus Total Long-Term Debt for the years listed. See Workpaper 1 for years 2009 thru 2013.

Asset Growth Rate
Department of Commerce Methodology
(Natural Logarithm of a Number)

(a) <i>LN of</i> <i>Assets</i>	(b) <i>Year</i>	(c) <i>Time</i>	(d) <i>Assets</i> ¹
19.4784	2013	1	287,990,179
19.5124	2014	2	297,949,038
19.5390	2015	3	305,981,551
19.5599	2016	4	312,447,547
19.5836	2017	5	319,938,321
19.6030	2018	6	326,183,309
19.6207	2019	7	332,020,372
19.6382	2020	8	337,892,083
19.6557	2021	9	343,853,341
19.6731	2022	10	349,876,440
19.6904	2023	11	355,974,823

0.0204 (10 yr. exponential GR)

0.0245 (5 yr. exponential GR)

¹ Assets represent forecasted Assets for the years listed.
See Workpaper 5, Page 2.

Ratio Calculations
Department of Commerce Methodology

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
<i>Year</i>	<i>Equity</i> ¹	<i>Debt</i> ²	<i>Total Capital</i> ³	<i>Equity Ratio</i> ⁴	<i>Debt Ratio</i> ⁵	<i>Assets</i> ⁶	<i>Equity as % of Assets</i> ⁷
2014	141,905,261	103,579,872	245,485,133	0.5781	0.4219	297,949,038	47.63%
2015	146,202,271	107,492,173	253,694,444	0.5763	0.4237	305,981,551	47.78%
2016	149,619,913	110,683,842	260,303,755	0.5748	0.4252	312,447,547	47.89%
2017	153,040,985	114,863,376	267,904,361	0.5713	0.4287	319,938,321	47.83%
2018	156,008,624	118,217,072	274,225,696	0.5689	0.4311	326,183,309	47.83%
2019	156,981,529	123,128,759	280,110,288	0.5604	0.4396	332,020,372	47.28%
2020	158,324,063	127,699,981	286,024,044	0.5535	0.4465	337,892,083	46.86%
2021	159,135,307	132,886,556	292,021,863	0.5449	0.4551	343,853,341	46.28%
2022	160,241,430	137,834,609	298,076,039	0.5376	0.4624	349,876,440	45.80%
2023	160,654,722	143,545,293	304,200,015	0.5281	0.4719	355,974,823	45.13%
			5-yr average:	57.39%	42.61%		47.79%
			10-yr average:	55.94%	44.06%		47.03%

¹ See Workpaper 5

² See Workpaper 5

³ Column b plus Column c

⁴ Column b divided by Column d

⁵ 1 minus Column e

⁶ See Workpaper 5

⁷ Column b divided by Column g

**Overall Return on Rate Base
Department of Commerce Methodology**

Assumptions:

1	Asset Growth Rate	2.45%
2	Equity Ratio	53.285%
3	Debt Ratio	46.715%
4	Test Year Total Capital	\$ 229,589,977
5	Test Year Total Equity	\$ 136,837,360
6	Test Year Total Debt	\$ 92,752,617
7	Annual Capital Credits	\$ 2,500,000
8	Rate Base	\$ 171,613,635
9	Cost of Long-Term Debt	5.31%

Terms:

- CC Capital Credits
- DR Debt Ratio = (Debt/Total Capital)
- ER Equity Ratio = (Equity/Total Capital)
- g Growth in Equity
- i Cost of Long-Term Debt
- K Rate of Return on Equity
- OCC Overall Cost of Capital
- RB Rate Base
- ROR Return on Rate Base
- TC Total Capital
- TIER Times Interest Earned Ratio

DOC Method:

Return on Equity: $K=g+(CC/(ER \times TC))$	g	ER	TC	CC
	0.0245	0.5329	229,589,977	\$ 2,500,000

Return on Equity:	0.0449	$K = g + (CC/(ER \times TC))$
Overall Cost of Capital (OCC):	0.0487	$OCC = (ER \times K) + ((1 - ER) \times i)$
Overall Return on Rate Base:	0.0652	$ROR = OCC \times (TC/RB)$
Times Interest Earned Ratio:	1.97	$TIER = ((K \times ER) + (i \times DR)) / (i \times DR)$

1 5 Year Asset Growth Rate, See Exhibit__(DEA-2), Page 6
2 Average of 2022 and 2023 Equity Ratios, See Exhibit__(DEA-2), Page 7
3 $1 - (Equity/Total Capital)$
4 See DEA Exhibit__(DEA-2), Page 5
5 See DEA Exhibit__(DEA-2), Page 5
6 See DEA Exhibit__(DEA-2), Page 5
7 DEA Board Resolution 14-5-5 Long Range Financial Forecast
8 See DEA Exhibit__(DEA-2), Page 2
9 See DEA Exhibit__(DEA-2), Page 4