

**Concord Steam Corporation
Cost Of Energy (COE)**

**DG 15 -
Schedule 1**

	Projected Steam Sales Mlbs	Projected Fuel Use MMBtu	\$/Mib	Steam Revenue Energy	Cost of Energy	Projected Over/Under Collection
Nov-15	12,887	44,431	\$ 25.22	\$ 325,052	\$ 317,473	\$ 7,579
Dec-15	22,147	62,645	25.22	\$ 558,613	\$ 402,947	\$ 155,666
Jan-16	26,187	75,160	25.22	\$ 660,515	\$ 528,925	\$ 131,590
Feb-16	22,798	69,900	25.22	\$ 575,029	\$ 474,453	\$ 100,575
Mar-16	17,859	54,645	25.22	\$ 450,459	\$ 360,134	\$ 90,325
Apr-16	10,372	37,000	25.22	\$ 261,606	\$ 251,367	\$ 10,240
May-16	2,428	25,265	25.22	\$ 61,249	\$ 156,669	\$ (95,420)
Jun-16	1,161	19,200	25.22	\$ 29,272	\$ 104,432	\$ (75,160)
Jul-16	1,064	18,860	25.22	\$ 26,827	\$ 175,425	\$ (148,597)
Aug-16	1,045	19,870	25.22	\$ 26,358	\$ 104,512	\$ (78,154)
Sep-16	1,977	21,350	25.22	\$ 49,866	\$ 120,828	\$ (70,962)
Oct-16	7,663	36,910	25.22	\$ 193,288	\$ 226,389	\$ (33,101)
TOTAL	127,586	485,236		3,218,135	\$ 3,223,553	(5,418)

Over collection from last year \$5,418

Energy Charge - \$ per Mib \$ 25.22
Total of Cost of Energy Charge \$ 3,218,135

Average COE charge for last year \$ 25.44

Change vs last year -0.83%

Projected MMBtu's and Cost:

	Projected MMBtu's					Total
	Nat. Gas	Waste	#6 Resid	Waste+ #6	Wood	
Nov-15	12,931	0	-	-	31,500	44,431
Dec-15	13,145	0	-	-	49,500	62,645
Jan-16	22,000	0	-	-	53,160	75,160
Feb-16	18,000	0	-	-	51,900	69,900
Mar-16	12,245	0	-	-	42,400	54,645
Apr-16	8,700	0	-	-	28,300	37,000
May-16	4,665	0	-	-	20,600	25,265
Jun-16	1,950	0	-	-	17,250	19,200
Jul-16	1,860	0	-	-	17,000	18,860
Aug-16	1,860	0	-	-	18,010	19,870
Sep-16	3,150	0	-	-	18,200	21,350
Oct-16	8,060	0	-	-	28,850	36,910
	108,566	0	0	0	376,670	485,236

bbls bbls bbls tons
 - - - 44,314

	Projected Costs					Other Production costs	Total
	Nat. Gas	Waste Oil	#6 Resid	Waste+ #6	Wood		
Nov-15	\$ 160,034	\$ -	\$ -	\$ -	\$ 127,438	30,000	\$ 317,473
Dec-15	\$ 162,687	\$ -	\$ -	\$ -	\$ 200,260	40,000	\$ 402,947
Jan-16	\$ 271,858	\$ -	\$ -	\$ -	\$ 215,067	42,000	\$ 528,925
Feb-16	\$ 222,484	\$ -	\$ -	\$ -	\$ 209,970	42,000	\$ 474,453
Mar-16	\$ 151,598	\$ -	\$ -	\$ -	\$ 171,536	37,000	\$ 360,134
Apr-16	\$ 107,875	\$ -	\$ -	\$ -	\$ 114,492	29,000	\$ 251,367
May-16	\$ 53,328	\$ -	\$ -	\$ -	\$ 83,341	20,000	\$ 156,669
Jun-16	\$ 22,644	\$ -	\$ -	\$ -	\$ 69,788	12,000	\$ 104,432
Jul-16	\$ 21,649	\$ -	\$ -	\$ -	\$ 68,776	85,000	\$ 175,425
Aug-16	\$ 21,649	\$ -	\$ -	\$ -	\$ 72,863	10,000	\$ 104,512
Sep-16	\$ 36,197	\$ -	\$ -	\$ -	\$ 73,631	11,000	\$ 120,828
Oct-16	\$ 91,671	\$ -	\$ -	\$ -	\$ 116,717	18,000	\$ 226,389
	\$ 1,323,675	\$ -	\$ -	\$ -	\$ 1,523,878	\$ 376,000	\$ 3,223,553

	Projected mmbtu costs			Average oil		
	Gas	Waste	#6	#6 + waste	Wood	
\$/MMBtu	\$ 12.19	\$ -	\$ -	\$ -	\$ 4.05	
	Decatherm	Bbl	Bbl		Ton	
Total \$/unit	12.19	\$ -	\$ -	\$ -	\$ 34.39	
Gas Commodity	\$ 3.26					

	Projected	10/11 Actual	11/12 Actual	12/13 Actual	13/14 Actual	Average	
	mmbtu's/mlb sold						
Projected Mlbs							
November	12,887	3.45	2.87	3.62	3.51	2.94	3.23
December	22,147	2.83	2.63	3.27	3.00	2.56	2.86
January	26,187	2.87	2.88	2.85	2.48	2.82	2.75
February	22,798	3.07	2.37	2.64	2.76	2.31	2.52
March	17,859	3.06	3.28	3.67	3.56	3.16	3.42
April	10,372	3.57	4.22	3.92	3.93	3.96	4.01
May	2,428	10.40	5.46	7.73	7.46	7.82	7.12
June	1,161	16.54	11.14	14.40	14.82	13.65	13.50
July	1,064	17.73	14.63	18.00	17.26	14.37	16.06
August	1,045	19.01	13.25	12.08	13.67	13.70	13.17
September	1,977	10.80	12.76	11.22	7.89	6.36	9.55
October	7,663	4.82	3.82	4.00	3.74	4.24	3.95
	<u>127,586</u>						

Month-Year	Days/Month	\$ Nat. Gas	Meter Chg	LDC	Commodity	Basis	Total
Nov-15	30	\$ 160,034	621.12	2.84	3.26	6.23	12.33
Dec-15	31	\$ 162,687	641.82	2.84	3.26	6.23	12.33
Jan-16	31	\$ 271,858	641.82	2.84	3.26	6.23	12.33
Feb-16	28	\$ 222,484	579.71	2.84	3.26	6.23	12.33
Mar-16	31	\$ 151,598	641.82	2.84	3.26	6.23	12.33
Apr-16	30	\$ 107,875	621.12	2.84	3.26	6.23	12.33
May-16	31	\$ 53,328	641.82	1.80	3.26	6.23	11.29
Jun-16	30	\$ 22,644	621.12	1.80	3.26	6.23	11.29
Jul-16	31	\$ 21,649	641.82	1.80	3.26	6.23	11.29
Aug-16	31	\$ 21,649	641.82	1.80	3.26	6.23	11.29
Sep-16	30	\$ 36,197	621.12	1.80	3.26	6.23	11.29
Oct-16	31	\$ 91,671	641.82	1.80	3.26	6.23	11.29
		<u>\$ 1,323,675</u>					

Liberty Utilities/EnergyNorth Tariff - Delivery Rate Components as of 07/01/2015		
G-43 Rate Class	Summer	Winter
Customer charge per Meter	\$20.7040	\$20.7040 per Month
G-43 Delivery Charge	\$1.0110	\$2.2100 Per Dth
Local Distribution Adjustment Charge	\$0.7930	\$0.6280 Per Dth
Firm Transportation COG Charge	na	na Per Dth

Concord Steam Corporation
Cost Of Energy (COE)

DG 15 -
Schedule-3

	Actual Sales Mlbs 2014/15	Steam sold non heating	Steam sold heating	Change in customers	Actual Deg Days 2013/14	Deg Days 30 yr ave	Adjusted Base rate Sales 2014/15	
Nov-14	13,100	1,200	11,900	(37)	812	800	12,887	Nov-15
Dec-14	20,568	1,200	19,368	(129)	1081	1177	22,147	Dec-15
Jan-15	28,543	1,200	27,343	(243)	1449	1336	26,187	Jan-16
Feb-15	30,135	1,200	28,935	(363)	1569	1186	22,798	Feb-16
Mar-15	19,099	1,200	17,899	(600)	1000	963	17,859	Mar-16
Apr-15	11,484	1,200	10,284	(519)	625	587	10,372	Apr-16
May-15	2,063	1,200	863	(181)	156	281	2,428	May-16
Jun-15	1,235	1,235	-	(75)	79	82	1,161	Jun-16
Jul-15	1,064	1,064	-	(0)	8	14	1,064	Jul-16
Aug-14	1,045	1,045	-	-	29	29	1,045	Aug-16
Sep-14	1,977	1,977	-	-	200	179	1,977	Sep-16
Oct-14	7,038	1,200	5,838	(2)	456	505	7,663	Oct-16
TOTAL	137,351			(2,150)	7,464	7,139	127,586	

Degree days compared to 30 yr ave 104.6%

**Concord Steam Corporation
Cost Of Energy (COE)**

**DG 15 -
Schedule-4**

Summary of 14-15 Energy expenses/Revenue

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	(projected) Aug-15	(projected) Sep-15	(projected) Oct-15	Total
Actual Mlbs. Sold	13,100	20,568	28,543	30,135	19,099	11,484	2,063	1,235	1,064	1,134	2,167	8,328	138,920
Actual Rate Per Mlb.	\$ 25.10	\$ 25.10	\$ 25.10	\$ 25.10	\$ 26.10	\$ 26.10	\$ 26.10	\$ 26.10	\$ 26.10	\$ 26.10	\$ 26.10	\$ 26.10	
Revenue:	\$ 328,803	\$ 516,250	\$ 716,440	\$ 756,400	\$ 498,484	\$ 299,732	\$ 53,844	\$ 32,234	\$ 27,770	\$ 29,597	\$ 56,559	\$ 217,357	\$ 3,533,471
Cost of Energy:	\$ 345,133	\$ 410,281	\$ 603,618	\$ 589,293	\$ 416,121	\$ 369,667	\$ 179,695	\$ 111,152	\$ 92,323	\$ 108,383	\$ 122,952	\$ 264,998	\$ 3,613,617
Over/(Under) Collection:													
Beginning Balance	\$ (145,077)	\$ (161,407)	\$ (55,438)	\$ 57,384	\$ 224,491	\$ 306,853	\$ 236,918	\$ 111,068	\$ 32,150	\$ (32,403)	\$ (111,189)	\$ (177,582)	
Current Month	\$ (16,330)	\$ 105,969	\$ 112,822	\$ 167,107	\$ 82,363	\$ (69,935)	\$ (125,850)	\$ (78,918)	\$ (64,553)	\$ (78,785)	\$ (66,393)	\$ (47,641)	
Ending Balance	\$ (161,407)	\$ (55,438)	\$ 57,384	\$ 224,491	\$ 306,853	\$ 236,918	\$ 111,068	\$ 32,150	\$ (32,403)	\$ (111,189)	\$ (177,582)	\$ (225,223)	
Purchased fuel costs:	\$ 3,613,617												
Over/(Under) Collection 13/14:	\$ (145,077)	See Sched 7 - COE reconciliation for previous year											
Revenue requirement:	\$ 3,758,694												
Adjusted Revenue stream:	\$ 3,533,471												
Insurance Adjustment	\$ 217,441												
Woodyard rental revenue	\$ 13,200												
Projected 2014-15 Over/(under) Collection:	\$ 5,418												

	Projected Mlbs.	Rate per Mlb.	Projected Revenue \$	Actual/Projected Mlbs.	Rate per Mlb.	Revenue \$	
Nov-14	13,521	\$ 25.10	\$ 339,369	Nov-14	13,100	\$ 25.10	\$ 328,803
Dec-14	21,496	\$ 25.10	\$ 539,547	Dec-14	20,568	\$ 25.10	\$ 516,250
Jan-15	28,460	\$ 25.10	\$ 714,338	Jan-15	28,543	\$ 25.10	\$ 716,440
Feb-15	24,012	\$ 25.10	\$ 602,691	Feb-15	30,135	\$ 25.10	\$ 756,400
Mar-15	16,387	\$ 25.10	\$ 411,324	Mar-15	19,099	\$ 26.10	\$ 498,484
Apr-15	10,987	\$ 25.10	\$ 275,765	Apr-15	11,484	\$ 26.10	\$ 299,732
May-15	3,524	\$ 25.10	\$ 88,455	May-15	2,063	\$ 26.10	\$ 53,844
Jun-15	1,360	\$ 25.10	\$ 34,126	Jun-15	1,235	\$ 26.10	\$ 32,234
Jul-15	1,132	\$ 25.10	\$ 28,416	Jul-15	1,064	\$ 26.10	\$ 27,770
Aug-15	1,134	\$ 25.10	\$ 28,463	Aug-15	1,134	\$ 26.10	\$ 29,597
Sep-15	2,167	\$ 25.10	\$ 54,392	Sep-15	2,167	\$ 26.10	\$ 56,559
Oct-15	8,328	\$ 25.10	\$ 209,029	Oct-15	8,328	\$ 26.10	\$ 217,357
Total	132,507	\$ 25.10	\$ 3,325,915	Total	138,920	\$ 25.44	\$ 3,533,471

Concord Steam Company
Cost of Energy (COE)

DG 15 -
Schedule 5

Revenue Summary

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
Cost of Energy	\$ 345,133	\$ 410,281	\$ 603,618	\$ 589,293	\$ 416,121	\$ 369,667	\$ 179,695	\$ 111,152	\$ 80,712	\$ -	\$ -	\$ -

Actual MMBtu's and Cost:

	Actual MMBtu's						Actual Costs				Projected/Actual Costs			Other	Total
	Nat. Gas	bbls	Waste + #6	Wood	Tons	Total	Nat. Gas	Waste + #6	Wood	Total	Nat. Gas	Waste + #6	Wood	Production costs	
Nov-14	12,931	-	-	32,822	3861	45,753	\$ 184,847	\$ -	\$ 133,433	\$ 318,279	\$ 184,847	\$ -	\$ 133,433	\$ 26,854	\$ 345,133
Dec-14	13,145	-	-	50,500	5941	63,644	\$ 186,117	\$ -	\$ 188,588	\$ 374,706	\$ 186,117	\$ -	\$ 188,588	\$ 35,575	\$ 410,281
Jan-15	32,716	-	-	29,471	3467	62,187	\$ 441,923	\$ -	\$ 122,351	\$ 564,275	\$ 441,923	\$ -	\$ 122,351	\$ 39,343	\$ 603,618
Feb-15	20,731	-	-	55,554	6536	76,285	\$ 346,281	\$ -	\$ 206,343	\$ 552,624	\$ 346,281	\$ -	\$ 206,343	\$ 36,669	\$ 589,293
Mar-15	12,938	-	-	54,737	6440	67,675	\$ 189,924	\$ -	\$ 191,812	\$ 381,736	\$ 189,924	\$ -	\$ 191,812	\$ 34,385	\$ 416,121
Apr-15	9,935	-	-	36,723	4320	46,658	\$ 137,022	\$ -	\$ 135,999	\$ 273,020	\$ 137,022	\$ -	\$ 135,999	\$ 96,647	\$ 369,667
May-15	4,648	-	-	16,539	1946	21,188	\$ 97,758	\$ -	\$ 67,886	\$ 165,644	\$ 97,758	\$ -	\$ 67,886	\$ 14,051	\$ 179,695
Jun-15	6,840	-	-	8,656	1018	15,495	\$ 51,321	\$ -	\$ 50,081	\$ 101,402	\$ 51,321	\$ -	\$ 50,081	\$ 9,750	\$ 111,152
Jul-15	10,451	-	-	1,783	210	12,234	\$ 54,085	\$ -	\$ 26,627	\$ 80,712	\$ 54,085	\$ -	\$ 26,627	\$ 11,611	\$ 92,323
Aug-15					0	-				\$ -	\$ 24,541	\$ -	\$ 73,842	\$ 10,000	\$ 108,383
Sep-15					0	-				\$ -	\$ 37,332	\$ -	\$ 74,620	\$ 11,000	\$ 122,952
Oct-15					0	-				\$ -	\$ 128,713	\$ -	\$ 118,285	\$ 18,000	\$ 264,998
Total	124,334	-	-	286,785	33,739	411,119	\$ 1,689,277	\$ -	\$ 1,123,120	\$ 2,812,397	\$ 1,879,864	\$ -	\$ 1,389,867	\$ 343,887	\$ 3,613,617
			BTU factor	BTU factor											
			6.13	8.5			\$ 13.59	#DIV/0!	\$ 3.92	\$ 6.84					
					5.18										
					-				#DIV/0!						

Projected MMBtu's and Cost:

	Projected MMBtu's						Projected Costs					Other	Total
	Nat. Gas	Waste	#6 Resid	Waste+ #6	Wood	Total	Nat. Gas	Waste Oil	#6 Resid	Waste+ #6	Wood	Production costs	
Nov-14	12,066	0	0	-	31,500	43,566	\$ 176,731	\$ -	\$ -	\$ -	\$ 129,150	30,000	\$ 335,881
Dec-14	11,334	0	0	-	49,500	60,834	\$ 166,009	\$ -	\$ -	\$ -	\$ 202,950	40,000	\$ 408,959
Jan-15	13,615	0	0	-	53,160	66,775	\$ 199,419	\$ -	\$ -	\$ -	\$ 217,956	42,000	\$ 459,375
Feb-15	12,449	0	0	-	51,900	64,349	\$ 182,341	\$ -	\$ -	\$ -	\$ 212,790	42,000	\$ 437,131
Mar-15	11,664	0	0	-	42,410	54,074	\$ 170,843	\$ -	\$ -	\$ -	\$ 173,881	37,000	\$ 381,724
Apr-15	8,598	0	0	-	28,281	36,879	\$ 125,935	\$ -	\$ -	\$ -	\$ 115,952	29,000	\$ 270,887
May-15	5,155	0	0	-	20,600	25,755	\$ 68,830	\$ -	\$ -	\$ -	\$ 84,460	20,000	\$ 173,290
Jun-15	2,650	0	0	-	17,250	19,900	\$ 35,383	\$ -	\$ -	\$ -	\$ 70,725	12,000	\$ 118,108
Jul-15	1,357	0	0	-	17,000	18,357	\$ 18,119	\$ -	\$ -	\$ -	\$ 69,700	15,000	\$ 102,819
Aug-15	1,838	0	0	-	18,010	19,848	\$ 24,541	\$ -	\$ -	\$ -	\$ 73,842	10,000	\$ 108,383
Sep-15	2,796	0	0	-	18,200	20,996	\$ 37,332	\$ -	\$ -	\$ -	\$ 74,620	11,000	\$ 122,952
Oct-15	9,640	0	0	-	28,850	38,490	\$ 128,713	\$ -	\$ -	\$ -	\$ 118,285	18,000	\$ 264,998
Total	93,162	-	-	-	376,661	469,823	\$ 1,334,194	\$ -	\$ -	\$ -	\$ 1,544,311	306,000	\$ 3,184,505
					44,313								
					bbls	tons							

Projected mmbtu costs

	Gas	Waste	#6	#6/waste	Wood
\$/MMBtu	\$ 14.32	#DIV/0!	#DIV/0!	#DIV/0!	\$ 4.10
	Decatherm	Bbl	Bbl	Bbl	Ton
\$/Unit	\$ 14.32	#DIV/0!	#DIV/0!	#DIV/0!	\$ 34.85

**Concord Steam Corporation
Cost Of Energy (COE)**

**DG 15 -
Schedule-6**

Customer Size	Annual usage M/lbs	Energy Charge at new rate 25.22	Energy Charge at 14/15 average 25.44	Meter Charge	Usage Rate	Proposed with new COE	Last year	% change over last year
Small	295	\$ 7,441	\$ 7,503	\$ 120	\$ 6,343	\$ 13,903	\$ 13,966	-0.45%
Medium	1201	\$ 30,293	\$ 30,548	\$ 400	\$ 25,461	\$ 56,154	\$ 56,409	-0.45%
Large	4797	\$ 120,996	\$ 122,013	\$ 944	\$ 97,379	\$ 219,319	\$ 220,336	-0.46%

The Small user will always use less than 500 Mlbs/month and their usage rate will always be highest tier.
 The Medium user may in some months use more than 500 Mlbs, but most of their usage will also be at the highest tier.
 The Large user almost always uses above 500 Mlbs/month but still never uses more than 2,000 Mlbs/month.
 They end up with a blended rate due to buying steam from the two tiers

The estimate of usage rate for each user is based on a sample customers actual annual usage divided by the total usage which establishes the average usage rate that the customer paid.

Concord Steam Company
 Cost of Energy (COE)

DG 15 -
 Schedule -7

Reconciliation of 2013-2014 cost of energy

	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
Revenue:	\$ 358,523	\$ 501,883	\$ 583,184	\$ 538,858	\$ 464,641	\$ 238,212	\$ 99,880	\$ 30,721	\$ 24,714	\$ 24,763	\$ 43,148	\$ 153,639
Cost of Energy:	\$ 324,008	\$ 390,744	\$ 614,736	\$ 389,999	\$ 339,774	\$ 321,977	\$ 180,738	\$ 117,412	\$ 92,265	\$ 143,322	\$ 86,115	\$ 167,726
Over/(Under) Collection:												
Beginning Balance	\$ (38,425)	\$ (3,910)	\$ 107,229	\$ 75,676	\$ 224,535	\$ 349,401	\$ 265,636	\$ 184,779	\$ 98,088	\$ 30,537	\$ (88,022)	\$ (130,990)
Current Month	\$ 34,515	\$ 111,138	\$ (31,552)	\$ 148,859	\$ 124,866	\$ (83,765)	\$ (80,857)	\$ (86,691)	\$ (67,551)	\$ (118,559)	\$ (42,968)	\$ (14,087)
Ending Balance	\$ (3,910)	\$ 107,229	\$ 75,676	\$ 224,535	\$ 349,401	\$ 265,636	\$ 184,779	\$ 98,088	\$ 30,537	\$ (88,022)	\$ (130,990)	\$ (145,077)
*Adjusted Annual Purchased fuel costs:	\$ 2,773,251	\$ 2,820,953	\$ 3,043,499	\$ 3,069,333	\$ 3,079,691	\$ 3,163,750	\$ 3,196,000	\$ 3,207,370	\$ 3,145,980	\$ 3,192,030	\$ 3,180,767	\$ 3,168,818
*Adjusted Annual Revenue requirement:	\$ 2,811,676	\$ 2,859,377	\$ 3,081,924	\$ 3,107,758	\$ 3,118,116	\$ 3,202,174	\$ 3,234,424	\$ 3,245,795	\$ 3,184,405	\$ 3,230,455	\$ 3,219,192	\$ 3,207,242
*Adjusted Annual Revenue stream:	\$ 2,854,184	\$ 2,908,205	\$ 2,898,439	\$ 2,982,621	\$ 3,089,524	\$ 3,087,898	\$ 3,110,847	\$ 3,111,888	\$ 3,115,580	\$ 3,114,845	\$ 3,118,240	\$ 3,062,165
Monthly Projection of Year-End												
Over/(under) Collection:	\$ 42,508	\$ 48,828	\$ (183,485)	\$ (125,137)	\$ (28,591)	\$ (114,276)	\$ (123,577)	\$ (133,907)	\$ (68,825)	\$ (115,610)	\$ (100,952)	\$ (145,077)

Purchased fuel costs:	\$ 3,168,818
2013 Over/(Under) Collection:	\$ (38,425) (2012-13 final reconciliation report)
PUC audit corrections	\$ -
Revenue requirement:	\$ 3,207,242
Revenue stream:	\$ 3,062,165
Over/(under) collection:	\$ (145,077)

*Adjusted costs, revenues and requirements (lines A19 - A21) are representing the annual projection of each line item adjusted for the current and previous months actual fuel costs and revenues

**Concord Steam Corporation
Cost Of Energy (COE)**

**DG 15 -
Schedule-8**

Estimated cost of Wood Yard Operations

Tons of wood per year 44,314
Delivered cost of mater \$ 28.00

	COE 15	Actual 8/14-7/15	Actual 8/13-7/14	Actual 8/12-7/13	Actual 8/11-7/12
Yard Lease	141,792	\$ 141,792	\$ 141,792	\$ 141,792	\$ 141,792
Diesel Fuel Yard/trucking	16,000	\$ 14,735	\$ 20,719	\$ 18,091	\$ 17,343
Electricity	5,000	\$ 4,548	\$ 3,613	\$ 3,267	\$ 2,937
Mechanical repairs	600	\$ 327	\$ 793	\$ 1,193	\$ 903
Small tools	250	\$ -	\$ 549	\$ 137	\$ 540
Loader rental	51,597	\$ 51,597	\$ 51,597	\$ 51,597	\$ 51,597
Tractor rental	15,233	\$ 15,233	15,233	15,233	2,539
Truck/Loader/scale maintenance	10,000	\$ 4,451	\$ 10,209	\$ 13,392	\$ 9,498
Contract Hauling		\$ -	\$ -	\$ -	\$ -
Propane heat	3,000	\$ 2,625	\$ 5,844	\$ 4,626	\$ 4,854
Veh Registration	2,200	\$ 978	\$ 2,398	\$ 687	\$ 2,073
Fees,		\$ -	\$ -	\$ 364	\$ 364
Cleaning/office supplies	10	\$ -	\$ 10		
Highway use tax	600	\$ 570	\$ 983	\$ 1,966	\$ 725
Property tax	15,000	\$ 13,092	\$ 24,226	\$ 24,746	\$ 25,245
Wood Broker	35,000	\$ 35,000	\$ 35,000	\$ 35,000	\$ 35,000
Subtotal	\$ 296,282	\$ 284,948	\$ 312,967	\$ 312,091	\$ 295,409

Rental revenue Capital Paving \$ (13,200)

Total net cost \$ 283,082

Cost of Yard operations per ton \$ 6.39

Delivered cost of material \$ 28.00

Total Cost of wood fuel per ton \$ 34.39

**Concord Steam Corporation
Cost Of Energy (COE)**

**DG 15 -
Schedule-9**

Other production costs included in COE

	Ash Disposal	Water/Sewer	Treatment Chemicals	State Emission fee	Total 2014/15 Actual	Projected 2015/16
Nov-14	\$1,927	\$23,213	\$1,714		26,854	30,000
Dec-14	\$1,981	\$31,880	\$1,714		35,575	40,000
Jan-15	\$2,184	\$34,084	\$3,076		39,343	42,000
Feb-15	\$3,276	\$30,318	\$3,076		36,669	42,000
Mar-15	\$5,351	\$26,388	\$2,646		34,385	37,000
Apr-15	\$2,047	\$20,576	\$1,959	72,065	96,647	29,000
May-15	\$2,047	\$8,661	\$3,343		14,051	20,000
Jun-15	\$350	\$6,935	\$2,465		9,750	12,000
Jul-15	\$1,580	\$8,756	\$1,275		11,611	85,000
Aug-14	\$339	\$7,945	\$1,794		10,078	10,000
Sep-14	\$1,981	\$6,915	\$1,199		10,095	11,000
Oct-14	\$1,527	\$13,172	\$1,328		16,028	18,000
Totals	24,590	218,845	25,587	72,065	341,088	376,000

**Cogen Turbines - Benefit - Cost Analysis
 Including Savings from Cogeneration of Electricity**

<i>Estimated cost to purchase all electricity from Unitil (If there was no self generation)</i>	\$ 226,140
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<i>Cost of electricity with self generation</i>	
<i>Purchased power from Unitil</i>	\$ 90,265
<i>Cost to generate electricity</i>	\$ 133,159
<i>Subtotal all costs</i>	<u>\$ 223,424</u>

<i>Revenue from sale of power</i>	\$ 85,318
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<i>Net cost of electricity for CSC</i>	\$ 138,106
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Benefits:

Sale of Electricity to ISO	\$ 85,318
Savings from generating own electricity in lieu of purchasing from Unitil	<u>\$ 135,875</u>
Total Benefits from continuing Cogen	\$ 221,193

Costs:

Operating Expenses, Return and Fuel Costs for Self Generation	<u>\$ 133,159</u>
	\$ 133,159

Benefits in Excess of Costs	\$ 88,035
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Benefit/Cost Ratio	1.66
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DG 15 -
Concord Steam
Benefit Computation

Schedule CB-2

Benefits

Sale of Power to ISO-New England:

<i>Volume of kWh's sold from 8/14-7/15</i>		1,080,176
Revenues received	\$	85,318
Rate per kWh	\$	0.079

<i>Estimated Cost if there was no Self Generation:</i>	\$	226,140
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Savings from self-generation of Electricity:

<i>Power purchased from Unitil</i>	\$	90,265
Value of avoided power purchase from Unitil	\$	135,875

Self generated Electricity Consumed (Excl. kWh purchased from Unitil)		1,135,024
Average Unitil cost \$/kWh	\$	0.085

Total Benefits from Sales to ISO and Self-Generation

DG 15 -
Concord Steam
Expense Detail

Schedule CB-3

Turbine Generator
Operating/Maintenance Costs
8/14-7/15

Cost of Sales:

5-7051 Consumables/Mech.	\$	487
5-7052 Pipe fittings	\$	87
5-7053 Valves	\$	-
5-7055 Misc. small tools	\$	-
5-7060 Consumables/Elec.	\$	-
5-7065 Consumables/Structural Repairs	\$	-
5-7085 Rental Fees/Generator Maint.	\$	-
5-7095 Repair Parts/Mech.	\$	2,119
5-7100 Repair Parts/Elec.	\$	343
5-7110 Contract Maintenance & Repair	\$	2,340
Total Cost of Sales	\$	<u>5,376</u>

Expenses:

Payroll Maintenance - 80 hrs @ \$25/hr	\$	2,000
Depreciation	\$	10,485
Amortization	\$	436
Property Tax	\$	1,016
Employer FICA	\$	153
Telephone	\$	600
Insurance/Plant	\$	6,281
Employees Ins. Med., etc.	\$	400
Misc. Expense		
Total	\$	<u>21,371</u>
Total Revenue Deductions	\$	26,747

Summary of Revenue Requirements:

Rate Base	\$	114,044
Rate of Return		<u>6.00%</u>
Allowed Return	\$	<u>6,843</u>

Revenue Requirements Deficiency/(Surplus)	\$	<u>6,843</u>
Gross-up for Taxes (x 1.68)	\$	<u><u>11,502</u></u>

Costs

	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Total
Fuel:													
Total kWh's Generated	561,600	600,000	386,400	256,800	31,200	4,800	2,400	-	-	28,800	148,000	195,200	2,215,200
Total kWh's Sold	345,178	362,817	133,714	78,531	5,129	-	-	-	-	11,286	49,430	94,091	1,080,176
\$ received from sales	\$ 23,006	\$ 44,173	\$ 10,282	\$ 2,010	\$ 97	\$ -	\$ -	\$ 0	\$ 315	\$ 258	\$ 2,401	\$ 2,776	\$ 85,318
\$/kWh sale price	\$ 0.0666	\$ 0.1218	\$ 0.0769	\$ 0.0256	\$ 0.0188					\$ 0.0229	\$ 0.0486	\$ 0.0295	\$ 0.0790
Btu's/kWh	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Btu/Lb Steam @ 125 psig. 430 F	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150	1,150
Total M Lbs of Steam	1,953	2,087	1,344	893	109	17	8	-	-	100	515	679	7,705
Fuel cost \$/MMBtu	9.07	7.27	5.64	5.85	7.82	6.54	6.60	8.54	6.05	5.09	6.96	5.89	
Fuel Cost per MLb	\$ 16.05	\$ 13.93	\$ 10.81	\$ 11.21	\$ 14.99	\$ 12.54	\$ 12.65	\$ 16.37	\$ 11.60	\$ 9.76	\$ 13.34	\$ 11.29	
Total Fuel Cost of Steam	\$ 31,346	\$ 29,080	\$ 14,529	\$ 10,015	\$ 1,627	\$ 209	\$ 106	\$ -	\$ -	\$ 977	\$ 6,867	\$ 7,665	\$ 102,421
<hr/>													
Total Fuel Cost of Steam	\$ 31,346	\$ 29,080	\$ 14,529	\$ 10,015	\$ 1,627	\$ 209	\$ 106	\$ -	\$ -	\$ 977	\$ 6,867	\$ 7,665	\$ 102,421
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Overhead:	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 26,747
Total Overhead	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 2,229	\$ 26,747
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Return on Investment													
Rate Base													\$ 114,044
Rate of Return													3.50%
Total Return on Investment	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 333	\$ 3,992
<hr/>													
Grand Total Costs	\$ 33,907	\$ 31,642	\$ 17,090	\$ 12,577	\$ 4,188	\$ 2,771	\$ 2,667	\$ 2,562	\$ 2,562	\$ 3,539	\$ 9,429	\$ 10,226	\$ 133,159
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Total Volume kWh's													<u>2,215,200</u>
Cost to generate per kWh	\$ 0.0604	\$ 0.0527	\$ 0.0442	\$ 0.0490	\$ 0.1342	\$ 0.5772	\$ 1.1113			\$ 0.1229	\$ 0.0637	\$ 0.0524	<u>\$ 0.06011</u>

Purchased Power Costs
 Cost Benefit Analysis
 09/15/2013

DG 15 -
 Concord Steam
Purchased Power Costs

Schedule CB-5

	Purchased Power kWh	Demand Charge	Energy Charge	Delivery Charge	Purchased Energy Total	Energy Cost \$/kWh	Power generated used in house kWh	Cost if power were purchased
Aug-14	83,923	1,785	5,286	2,095	\$ 9,166	0.088	-	\$ -
Sep-14	89,827	1,783	5,028	2,212	\$ 9,023	0.081	-	\$ -
Oct-14	108,192	1,809	6,716	2,665	\$ 11,190	0.087	17,514	\$ 1,519
Nov-14	94,944	2,259	5,954	2,338	\$ 10,551	0.087	98,570	\$ 8,609
Dec-14	103,574	2,986	7,245	2,551	\$ 12,782	0.095	101,109	\$ 9,605
Jan-15	922	2,389	72	23	\$ 2,484	0.103	216,422	\$ 22,299
Feb-15	317	2,389	29	8	\$ 2,426	0.117	237,183	\$ 27,684
Mar-15	979	2,389	126	24	\$ 2,539	0.153	252,686	\$ 38,716
Apr-15	7,968	2,389	903	196	\$ 3,488	0.138	178,269	\$ 24,588
May-15	83,827	2,389	5,511	2,065	\$ 9,965	0.090	26,071	\$ 2,356
Jun-15	97,267	2,389	4,195	2,396	\$ 8,980	0.068	4,800	\$ 325
Jul-15	72,816	2,389	3,489	1,793	\$ 7,671	0.073	2,400	\$ 174
Total	744,556	27,345	44,554	18,366	\$ 90,265	0.085	1,135,024	\$ 135,875

Average Cost/kwh \$ 0.085