

MONTANA-DAKOTA UTILITIES CO.  
 REAGENT - PRODUCTION EXPENSE  
 ELECTRIC UTILITY - SOUTH DAKOTA  
 TWELVE MONTHS ENDING DECEMBER 31, 2014  
 WORKPAPER

	Per Books		Pro Forma 1/		Adjustment
	Total Company	South Dakota	Total Company	South Dakota 2/	
Big Stone	\$0	\$0	\$1,017,869	\$0	\$0
Coyote	413,109	22,546	523,935	0	(22,546)
Lewis & Clark	370,543	19,897	426,625	0	(19,897)
Lewis & Clark - RICE	0	0	16,200	0	0
<b>Total Production</b>	<b>\$783,652</b>	<b>\$42,443</b>	<b>\$1,984,629</b>	<b>\$0</b>	<b>(\$42,443)</b>

1/ Based on engineering cost estimates.

2/ Included in Fuel & Purchased Power.

**Big Stone: AQCS (Per annualized 2015 Budget)**

			MDU Share
Pebble Lime for FGD:	\$2,544,000	22.70%	577,488
Activated Carbon for Hg Capture:	\$560,004	22.70%	127,121
Anhydrous Ammonia for SCR:	\$1,380,000	22.70%	313,260
<b>Total for 2015</b>			<b>1,017,869</b>

**Coyote: (Per 2015 Budget)**

1991: Pebble Lime:	\$1,447,742	25.00%	361,935
Activated Carbon Injection system (ACI)			
Powdered Activated Carbon (PAC):	\$648,000	25.00%	162,000
<b>Total for 2015</b>			<b>523,935</b>

**L&C Reagent: #5332**

Per 2015 Budget - Engineering Cost Estimate	<u>Total</u>
	426,625

**L&C RICE UNIT:**

Per 2015 Budget - Engineering Cost Estimate	<u>Total</u>
	16,200

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**BIG STONE PLANT  
2015 OPERATING & MAINTENANCE PROJECTIONS - MDU Share 22.7%**

		<b>TOTAL</b>							
<b>NET GENERATION (MWh)</b>		526,419							
36.66	Coal Burned Generation (Tons)	344,645							
	Coal Burned POET (Tons)	9,084							
3.39	Fuel Oil Burned for Generation (Gallons)	26,041							
Coal Burned Generation (\$)		12,634,670							
Coal Burned POET (\$)		333,031							
Fuel Oil Burned for Generation (\$)		88,277							
<b>TOTAL FUEL EXPENSES</b>		<b>\$13,055,978</b>							
<b>TOTAL FUEL EXPENSES LESS POET</b>		<b>\$12,722,947</b>							
<b>Payroll and Other Expenses:</b>		<b>AQCS 3 Months</b>	<b>Annualized</b>	<b>Total w/ Annualized AQCS</b>	<b>Project moved to Capital</b>	<b>New Total W/ Annualized AQCS</b>	<b>Major Outage Costs</b>		
500	Operation Expenses	\$171,137		\$171,137		\$171,137			
500GO	General Office Payroll	\$90,800		\$90,800		\$90,800			
501	Fuel Expenses (excluding coal & oil)	\$93,897		\$93,897		\$93,897			
502	Steam Expenses	\$551,118	\$ (364,335.00)	\$186,783		\$186,783			
	Variable AQCS		\$ 1,017,868.91	\$1,017,869		\$1,017,869			
	Fixed AQCS		\$ 439,471.09	\$439,471		\$439,471			
505	Electric Expenses	\$377,555		\$377,555		\$377,555			
506	Miscellaneous Steam Power Expenses	\$799,077		\$799,077		\$799,077			
510	Maintenance Supervision & Engineering	\$180,999		\$180,999		\$180,999			
511	Maintenance of Structures	\$221,712		\$221,712		\$221,712	\$	90,800.00	
512	Maintenance of Boiler Plant	\$2,140,436		\$2,140,436	\$ (408,600.00)	\$1,731,836	\$	797,822.37	
513	Maintenance of Electric Plant	\$1,091,018		\$1,091,018		\$1,091,018	\$	973,489.50	
514	Maintenance of Misc. Steam Plant	\$258,792		\$258,792		\$258,792	\$	85,579.00	
556	Dispatching (Other Power Supply)	\$84,193		\$84,193		\$84,193			
<b>Total Payroll and Other Expenses</b>		<b>\$6,060,734</b>	<b>(\$364,335)</b>	<b>\$1,457,340</b>	<b>\$7,153,739</b>	<b>\$6,745,139</b>	\$	<b>1,947,690.87</b>	
<b>TOTAL O&amp;M EXPENSES</b>		<b>\$19,116,712</b>						This is included in	
<b>TOTAL O&amp;M EXPENSES LESS COAL FOR POET</b>		<b>\$18,783,681</b>						the annualized amount	
456.3	Other Electric Revenue (POET)	(\$791,634)							
419-456	Miscellaneous Revenues	(\$29,194)							
<b>TOTAL REVENUE</b>		<b>(\$820,827)</b>							
151-154	Asset Account Changes	\$0							
165.4	Prepaid Insurance	\$998,178							
<b>TOTAL PRODUCTION NET COSTS</b>		<b>\$19,294,063</b>							
<b>TOTAL PRODUCTION LESS POET NET COSTS</b>		<b>\$18,464,644</b>							
TOTAL O&M W/O FUEL & REVENUES		\$5,572,937							
TOTAL O&M W/O FUEL & REVENUES W/O P		\$6,031,540							
Total Plant Expenses per MWh		\$36.31							
Total Gen. Exp. per MWh Less POET		\$35.68							
Fuel Cost per MWh		\$24.80							
Total Production Cost per MWh		\$36.65							
Total Generation Production Cost per MWh		\$35.08							
Total Generation W/O Fuel per MWh		\$11.46							
Total Plant W/O Fuel per MWh		\$10.59							

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**BIG STONE PLANT  
2015 OPERATING & MAINTENANCE PROJECTIONS - MDU Share 22.7%**

**TOTAL**

FROM the "All by FERC" tab:

**Payroll and Other Generation Expenses:**

500	Operation Expenses	\$753,910
500GO	General Office Payroll	\$400,000
501	Fuel Expenses (excluding coal & oil)	\$413,642
502	Steam Expenses	\$2,427,832
505	Electric Expenses	\$1,663,237
506	Miscellaneous Steam Power Expenses	\$3,520,162
510	Maintenance Supervision & Engineering	\$797,350
511	Maintenance of Structures	\$976,704
512	Maintenance of Boiler Plant	\$9,429,235
513	Maintenance of Electric Plant	\$4,806,247
514	Maintenance of Misc. Steam Plant	\$1,140,053
556	Dispatching (Other Power Supply)	\$370,896
<b>Total Payroll and Other Generation Exp.</b>		<b>\$26,699,268</b>

\* NOTE Reagents included above in FERC 502 possibly eligible for Fuel Clause Recovery are itemized below

	<b>TOTAL</b>	<b>IDU Share 22.7'</b>	<b>Annualize *4</b>
Activated Carbon for Mercury Capture	140,001	31,780	127,121
Ammonia for SCR	345,000	78,315	313,260
Pebble Lime for FGD	636,000	144,372	577,488
		<u>254,467</u>	<u>1,017,869</u>

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## Coyote Station 2015 Operating & Maintenance Budget - MDU Share 25%

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
<b>NET GENERATION (MWh)</b>	74,514	64,156	63,395	55,952	51,624	47,881	73,862	73,588	55,202	60,149	66,050	67,661	754,032
Coal Burned (Tons)	60,041	51,879	51,379	45,477	42,086	39,086	59,566	59,364	44,923	48,837	53,342	54,612	610,590
Fuel Oil Burned (Gallons)	7,079	6,095	10,143	5,316	4,904	7,661	7,017	6,991	8,060	10,225	6,275	6,428	86,193
Reagent Consumed (Tons)	296	255	251	222	205	190	293	292	219	239	262	268	2,991
Activated Carbon Consumed (Pounds)	0	20,000	20,000	10,000	20,000	10,000	20,000	30,000	10,000	20,000	20,000	20,000	200,000
Coal Burned (\$)	1,214,022	1,048,989	1,038,886	919,545	850,976	790,316	1,204,429	1,200,334	908,340	987,481	1,078,567	1,104,250	12,346,133
Coal profit limit Section 8 payments	0	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Oil Burned (\$)	23,997	20,661	34,385	18,019	16,626	25,971	23,788	23,699	27,322	34,664	21,272	21,790	292,193
Total Activated Carbon Expenses	0	16,200	16,200	8,100	16,200	8,100	16,200	24,300	8,100	16,200	16,200	16,200	162,000
<b>Total Fuel Expenses</b>	<b>\$1,238,019</b>	<b>\$1,085,851</b>	<b>\$1,089,471</b>	<b>\$945,664</b>	<b>\$883,802</b>	<b>\$824,387</b>	<b>\$1,244,417</b>	<b>\$1,248,333</b>	<b>\$943,762</b>	<b>\$1,038,345</b>	<b>\$1,116,039</b>	<b>\$1,142,241</b>	<b>\$12,800,326</b>
<b>Total Lime Reagent Expenses</b>	<b>\$35,767</b>	<b>\$30,795</b>	<b>\$30,429</b>	<b>\$26,857</b>	<b>\$24,780</b>	<b>\$22,983</b>	<b>\$35,454</b>	<b>\$35,322</b>	<b>\$26,497</b>	<b>\$28,872</b>	<b>\$31,704</b>	<b>\$32,477</b>	<b>\$361,935</b>
<b>Payroll and Other Generation Expenses:</b>													
500 General Office Payroll Charges	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	6,750	81,000
500 Operation Supervision and Engineering	25,438	28,686	26,283	30,781	31,352	30,556	27,156	28,303	28,025	28,369	28,792	25,878	339,620
501 Fuel Expenses (excluding coal & oil)	1,898	1,932	1,613	2,134	1,997	2,350	2,332	2,666	1,821	2,261	2,473	2,484	25,960
502 Steam Expenses (excluding reagent)	63,359	60,579	58,403	66,158	64,535	68,157	60,732	63,454	102,091	66,857	66,500	64,731	805,557
505 Electric Expenses	42,126	41,837	39,522	40,230	40,305	39,415	40,588	40,849	41,600	40,614	41,915	41,582	490,583
506 Miscellaneous Steam Power Expenses	44,865	53,224	56,531	34,395	37,789	38,186	34,507	31,989	33,370	41,711	47,797	39,593	493,956
510 Maintenance Supervision & Engineering	14,421	18,639	15,910	19,968	23,498	13,766	12,209	12,639	12,669	14,021	15,476	14,144	187,360
511 Maintenance of Structures	7,831	20,336	11,468	15,273	19,477	38,595	14,920	14,915	9,479	11,804	8,164	9,846	182,108
512 Maintenance of Boiler Plant	61,379	67,548	192,754	101,520	84,282	366,954	62,542	60,937	205,945	73,042	69,537	173,932	1,520,373
513 Maintenance of Electric Plant	9,953	13,932	41,363	25,461	26,674	46,436	12,207	9,764	18,727	14,638	13,592	7,467	240,214
514 Maintenance of Misc. Steam Plant	24,996	34,928	28,523	24,236	23,534	38,683	19,663	26,866	23,595	23,049	22,702	25,392	316,168
<b>Total Payroll and Other Generation Expenses</b>	<b>\$303,016</b>	<b>\$348,393</b>	<b>\$479,120</b>	<b>\$366,906</b>	<b>\$360,194</b>	<b>\$689,849</b>	<b>\$293,605</b>	<b>\$299,130</b>	<b>\$484,071</b>	<b>\$323,118</b>	<b>\$323,698</b>	<b>\$411,799</b>	<b>\$4,682,900</b>
<b>TOTAL STEAM GENERATION EXP.</b>	<b>\$1,576,802</b>	<b>\$1,465,038</b>	<b>\$1,599,020</b>	<b>\$1,339,427</b>	<b>\$1,268,775</b>	<b>\$1,537,218</b>	<b>\$1,573,476</b>	<b>\$1,582,785</b>	<b>\$1,454,329</b>	<b>\$1,390,334</b>	<b>\$1,471,441</b>	<b>\$1,586,516</b>	<b>\$17,845,162</b>
556 Dispatching (Other Power Supply)	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	85,200
560-573 Transmission Expenses	0	0	0	0	0	0	7,250	0	0	0	0	0	7,250
<b>TOTAL O&amp;M EXPENSES</b>	<b>\$1,583,902</b>	<b>\$1,472,138</b>	<b>\$1,606,120</b>	<b>\$1,346,527</b>	<b>\$1,275,875</b>	<b>\$1,544,318</b>	<b>\$1,587,826</b>	<b>\$1,589,885</b>	<b>\$1,461,429</b>	<b>\$1,397,434</b>	<b>\$1,478,541</b>	<b>\$1,593,616</b>	<b>\$17,937,612</b>
408 Coal Conversion Tax	48,703	43,203	45,923	43,092	42,980	41,074	48,540	48,471	42,905	45,112	45,617	46,989	542,608
419-456 Miscellaneous Revenue	(4,500)	(800)	(2,250)	(6,000)	(750)	(1,125)	(1,250)	(1,500)	(875)	(2,250)	(1,625)	(1,375)	(24,300)
456 CDWW Revenue	(12,500)	(12,500)	(12,500)	(12,500)	(12,500)	(12,500)	(12,500)	(12,500)	(12,500)	(12,500)	(12,500)	(12,500)	(150,000)
151-165 Inventory changes & Insurance	0	26,580	0	145,218	0	131	0	0	0	420	0	0	172,349
<b>TOTAL PRODUCTION COSTS</b>	<b>\$1,615,604</b>	<b>\$1,528,821</b>	<b>\$1,637,293</b>	<b>\$1,516,337</b>	<b>\$1,305,605</b>	<b>\$1,571,899</b>	<b>\$1,622,616</b>	<b>\$1,624,356</b>	<b>\$1,490,959</b>	<b>\$1,428,216</b>	<b>\$1,510,033</b>	<b>\$1,626,731</b>	<b>\$18,478,268</b>
<i>O&amp;M Expenses Without Fuel</i>	<i>\$345,883</i>	<i>\$386,288</i>	<i>\$516,649</i>	<i>\$400,863</i>	<i>\$392,073</i>	<i>\$719,932</i>	<i>\$343,409</i>	<i>\$341,552</i>	<i>\$517,668</i>	<i>\$359,089</i>	<i>\$362,503</i>	<i>\$451,376</i>	<i>\$5,137,285</i>
<i>O&amp;M Expenses per MWh</i>	<i>\$21.26</i>	<i>\$22.95</i>	<i>\$25.34</i>	<i>\$24.07</i>	<i>\$24.71</i>	<i>\$32.25</i>	<i>\$21.50</i>	<i>\$21.61</i>	<i>\$26.47</i>	<i>\$23.23</i>	<i>\$22.39</i>	<i>\$23.55</i>	<i>\$23.79</i>
<i>Fuel Cost per MWh</i>	<i>\$16.61</i>	<i>\$16.93</i>	<i>\$17.19</i>	<i>\$16.90</i>	<i>\$17.12</i>	<i>\$17.22</i>	<i>\$16.85</i>	<i>\$16.96</i>	<i>\$17.10</i>	<i>\$17.26</i>	<i>\$16.90</i>	<i>\$16.88</i>	<i>\$16.98</i>
<i>O&amp;M Without Fuel per MWh</i>	<i>\$4.64</i>	<i>\$6.02</i>	<i>\$8.15</i>	<i>\$7.16</i>	<i>\$7.59</i>	<i>\$15.04</i>	<i>\$4.65</i>	<i>\$4.64</i>	<i>\$9.38</i>	<i>\$5.97</i>	<i>\$5.49</i>	<i>\$6.67</i>	<i>\$6.81</i>

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