



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
ENVIRONMENTAL IMPROVEMENT ADJUSTMENT
For the Pro Forma Year End May 31, 2018

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BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
COST RECOVERY RATE - ENVIRONMENTAL IMPROVEMENTS
Rate Calculation Effective June 1, 2017

Line No.	Description	Reference	South Dakota Forecast
1			
2	Environmental Improvement Year 3 Revenue Requirement (June 1, 2017 through May 31, 2018)	Schedule 4-3 line 2	\$ 398,317
3			
4	Production Capacity Allocators by Customer Class		
5	Residential	Docket No. EL14-026	38.072%
6	Small General Service	Docket No. EL14-026	30.920%
7	Large General Service and Industrial	Docket No. EL14-026	30.426%
8	Lighting	Docket No. EL14-026	0.582%
9			
10	Revenue Requirement by Customer Class		
11	Residential		
12	Forecasted 3rd Year EIA Revenue Requirement	line 2 x line 5	\$ 151,647
13	Balancing Account Under/(Over) Recovery	Schedule 4-2 line 10	(24,601)
14	Net Residential Revenue Requirement	line 12 + line 13	\$ 127,046
15			
16	Small General Service		
17	Forecasted 3rd Year EIA Revenue Requirement	line 2 x line 6	\$ 123,160
18	Balancing Account Under/(Over) Recovery	Schedule 4-2 line 23	(29,578)
19	Net Small General Service Revenue Requirement	line 17 + line 18	\$ 93,581
20			
21	Large General Service and Industrial		
22	Forecasted 3rd Year EIA Revenue Requirement	line 2 x line 7	\$ 121,192
23	Balancing Account Under/(Over) Recovery	Schedule 4-2 line 36	(12,021)
24	Net Large General Service and Industrial Revenue Requirement	line 22 + line 23	\$ 109,171
25			
26	Lighting		
27	Forecasted 3rd Year EIA Revenue Requirement	line 2 x line 8	\$ 2,318
28	Balancing Account Under/(Over) Recovery	Schedule 4-2 line 49	(428)
29	Net Lighting Revenue Requirement	line 27 + line 28	\$ 1,890
30			
31	Forecasted South Dakota kWh sales		
32	Residential	6/1/17 - 5/31/18 BHP Sales Budget	510,232,411
33	Small General Service	6/1/17 - 5/31/18 BHP Sales Budget	419,366,619
34	Large General Service and Industrial	6/1/17 - 5/31/18 BHP Sales Budget	553,361,522
35	Lighting	6/1/17 - 5/31/18 BHP Sales Budget	13,833,473
36			
37	Environmental Improvement Adjustment Rate / kWh (June 1, 2017 through May 31, 2018)		
38	Residential	line 14 ÷ line 32	\$ 0.00025
39	Small General Service	line 19 ÷ line 33	\$ 0.00022
40	Large General Service and Industrial	line 24 ÷ line 34	\$ 0.00020
41	Lighting	line 29 ÷ line 35	\$ 0.00014



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
EIA ANNUAL BALANCING ACCOUNT TRUE-UP

Line No.	Actual Jun-16	Actual Jul-16	Actual Aug-16	Actual Sep-16	Actual Oct-16	Actual Nov-16	Actual Dec-16	Actual Jan-17	Forecasted Feb-17	Forecasted Mar-17	Forecasted Apr-17	Forecasted May-17	Forecasted Jun-17
1 Residential													
2 Expected Recovery	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 6,370	\$ 3,185
3 Actual Revenues	5,533	8,869	9,234	7,302	6,259	6,501	9,995	12,735	9,781	8,567	8,212	7,133	3,600
4 Monthly Under/(Over) Recovery	837	(2,499)	(2,864)	(932)	112	(131)	(3,624)	(6,364)	(3,411)	(2,196)	(1,841)	(763)	(414)
5													
6 Days in Current Month	30	31	31	30	31	30	31	31	28	31	30	31	30
7 Interest Rate	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
8 Monthly Interest	7	(8)	(25)	(29)	(30)	(30)	(52)	(90)	(100)	(125)	(132)	(142)	(140)
9													
10 Balancing Account	\$ 1,229	\$ (1,277)	\$ (4,166)	\$ (5,127)	\$ (5,045)	\$ (5,205)	\$ (8,882)	\$ (15,337)	\$ (18,848)	\$ (21,169)	\$ (23,142)	\$ (24,046)	\$ (24,601)
11													
12													
13 Small General Service													
14 Expected Recovery	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 5,174	\$ 2,587
15 Actual Revenues	6,059	10,170	10,833	9,386	7,883	7,384	8,474	9,850	7,932	7,740	7,538	7,226	3,931
16 Monthly Under/(Over) Recovery	(885)	(4,997)	(5,659)	(4,212)	(2,709)	(2,210)	(3,300)	(4,677)	(2,758)	(2,566)	(2,364)	(2,052)	(1,344)
17													
18 Interest:													
19 Days in Current Month	30	31	31	30	31	30	31	31	28	31	30	31	30
20 Interest Rate	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
21 Monthly Interest	59	31	(2)	(26)	(43)	(55)	(77)	(105)	(110)	(138)	(147)	(165)	(169)
22													
23 Balancing Account	\$ 10,276	\$ 5,310	\$ (351)	\$ (4,589)	\$ (7,341)	\$ (9,607)	\$ (12,983)	\$ (17,764)	\$ (20,632)	\$ (23,336)	\$ (25,848)	\$ (28,066)	\$ (29,578)
24													
25													
26 Large General Service and Industrial													
27 Expected Recovery	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 5,091	\$ 2,545
28 Actual Revenues	4,139	7,068	7,654	7,212	6,831	7,116	7,104	6,735	7,902	6,589	7,372	7,088	4,045
29 Monthly Under/(Over) Recovery	952	(1,977)	(2,563)	(2,121)	(1,740)	(2,025)	(2,013)	(1,644)	(2,811)	(1,498)	(2,281)	(1,997)	(1,499)
30													
31 Interest:													
32 Days in Current Month	30	31	31	30	31	30	31	31	28	31	30	31	30
33 Interest Rate	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
34 Monthly Interest	70	61	46	33	23	11	(0)	(10)	(24)	(36)	(48)	(62)	(69)
35													
36 Balancing Account	\$ 12,223	\$ 10,306	\$ 7,789	\$ 5,700	\$ 3,984	\$ 1,970	\$ (43)	\$ (1,697)	\$ (4,532)	\$ (6,066)	\$ (8,395)	\$ (10,454)	\$ (12,021)
37													
38													
39 Lighting													
40 Expected Recovery	\$ 97	\$ 97	\$ 97	\$ 97	\$ 97	\$ 97	\$ 97	\$ 97	\$ 97	\$ 97	\$ 97	\$ 97	\$ 49
41 Actual Revenues	66	106	132	139	153	164	178	181	144	139	129	114	52
42 Monthly Under/(Over) Recovery	31	(9)	(35)	(41)	(56)	(66)	(80)	(84)	(47)	(42)	(31)	(16)	(3)
43													
44 Interest:													
45 Days in Current Month	30	31	31	30	31	30	31	31	28	31	30	31	30
46 Interest Rate	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
47 Monthly Interest	1	1	0	0	(0)	(1)	(1)	(2)	(2)	(2)	(2)	(2)	(2)
48													
49 Balancing Account	\$ 97	\$ 89	\$ 54	\$ 13	\$ (43)	\$ (110)	\$ (192)	\$ (277)	\$ (326)	\$ (370)	\$ (403)	\$ (422)	\$ (428)



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
COST OF SERVICE - ENVIRONMENTAL IMPROVEMENTS
Year Three Revenue Requirement Calculation

Line No.	Description	Reference	South Dakota Jurisdiction
1	Operating Revenue Required		
2	Environmental Improvement Revenue		\$ 398,317
3			
4	Operating Expenses		
5	Depreciation	Schedule 4-5, line 10	121,432
6	Assessed Filing Fee	Docket EL15-008	2,997
7	Total Operating Expenses		<u>124,430</u>
8			
9	Operating Income Before Tax	(line 2 - line 7)	273,887
10			
11	Federal Income Tax	Schedule 4-5, line 21	88,238
12			
13	Return (Operating Income)	Schedule 4-5, line 18 (line 9 - line 11)	<u>\$ 185,649</u>
14			
15	Rate of Return		<u>7.76%</u>
16			
17	Rate Base		
18	Plant in Service	Schedule 4-4, line 8	4,252,985
19	Less: Accumulated Depreciation	Schedule 4-4, line 13	164,659
20	Less: Accumulated Deferred Income Taxes	Schedule 4-4, sum of line 23	1,695,946
21			
22	Total Rate Base	(line 18 - line 19 - line 20)	<u>\$ 2,392,380</u>



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
RATE BASE - ENVIRONMENTAL IMPROVEMENTS
Year Three Revenue Requirement Calculation

Line No.	Description	(a) Plant in Service for Rate Base	(b) South Dakota Jurisdictional Allocation	(c) (a) * (b) South Dakota Plant in Service for Rate Base	(d) Date in Service	(e) Note (1) Allocation Based on In-Service Date	(f) (d) * (e) South Dakota Allocation Based on In-Service Date
1	Property, Plant, and Equipment						
2	Wyodak - Mercury Control System	\$ 1,175,438	89.831%	\$ 1,055,908	4/15/2015	100.00%	\$ 1,055,908
3	Wygen III - CO & O2 Grid Install	143,942	89.831%	129,304	1/1/2016	100.00%	129,304
4	NS Common - Compressed Air	756,377	89.831%	679,461	8/19/2016	100.00%	679,461
5	NSII - Electrostatic precipitator (ESP)	1,353,880	89.831%	1,216,204	6/15/2017	96.16%	1,169,502
6	NS Common - Amended Silicates Silo - Neil Simpson II	866,281	89.831%	778,189	3/31/2017	100.00%	778,189
7	NS Common - Amended Silicates Silo - Wygen III	490,500	89.831%	440,621	1/15/2017	100.00%	440,621
8	Total Plant in Service - Environmental Improvements	<u>\$ 4,786,418</u>		<u>\$ 4,299,687</u>			<u>\$ 4,252,985</u>
9							
10							
11	Reserve May 2017				Workpaper WP- Plant and Reserve, line 26, column (s)		\$ 103,943
12	1/2 Year Depreciation				Schedule 4-5 (line 10) x 50%		60,716
13	Total Book Depreciation Reserve						<u>\$ 164,659</u>
14							
15							
16	Accumulated Deferred Taxes				(a1) ADIT prior to Proration	(b1) Proration adj (Note 2)	(c1) (a1) + (b1)
17	Environmental Improvements - Plant in Service - South Dakota				\$ 4,786,418		
18	MACRS Table - Depreciation Rate (20 year life)						
19	South Dakota Cumulative Tax Depreciation		Workpaper - ADIT Summary, line 20, column (c)		2,694,947		
20	South Dakota Book Depreciation		Workpaper - ADIT Summary, line 19, column (c)		232,455		
21	Timing Difference				2,462,492	(39,711)	2,422,780
22	Federal Income Tax Rate				35.00%	35.00%	35.00%
23	South Dakota Deferred Tax				<u>\$ 861,872</u>	<u>\$ (13,899)</u>	<u>\$ 847,973</u>
24							
25							
26	South Dakota Rate Base					(line 8 - Line 12 - line 23)	<u>\$ 3,344,296</u>
27							

Note (1) - Allocation is for the time period 6/1/17 through 5/31/18



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
OPERATING EXPENSES AND TAXES - ENVIRONMENTAL IMPROVEMENTS
Year 3 Revenue Requirement Calculation

Line No.	Description	Reference	South Dakota		
			Note (1)		
			South Dakota	Depreciation	Depreciation
			Plant in Service	Rate	Expense
1					
2					
3	Depreciation Expense				
4	Wyodak - Mercury Control System	Schedule 4-4 In 2	\$ 1,055,908	2.86%	\$ 30,199
5	Wygen III - CO & O2 Grid Install	Schedule 4-4 In 3	\$ 129,304	2.64%	3,414
6	NS Common - Compressed Air	Schedule 4-4 In 4	\$ 679,461	2.90%	19,704
7	NSII - Electrostatic precipitator (ESP)	Schedule 4-4 In 5	\$ 1,169,502	2.90%	33,916
8	NS Common - Amended Silicates Silo - Neil Simpson II	Schedule 4-4 In 6	\$ 778,189	2.90%	22,567
9	NS Common - Amended Silicates Silo - Wygen III	Schedule 4-4 In 7	\$ 440,621	2.64%	11,632
10	Depreciation Expense - South Dakota				<u>\$ 121,432</u>
11					
12					
13	Federal Tax				
14	Rate Base - South Dakota	Schedule 4-4 line 26			\$ 3,344,296
15					
16	Interest Expense	calculated			95,647
17	Return on Equity	calculated			163,871
18	Return	line 16 + line 17			<u>259,518</u>
19					
20	Authorized Return	Docket No. EL14-026			<u>7.76%</u>
21	Federal Tax Expense - South Dakota	((line 17 x line 25) - line 17)			<u>\$ 88,238</u>
22					
23					
24	Assumptions				
25	Tax Multiplier - Federal Tax Rate at 35% - tax multiplier	(1/(1-.35))			1.5385
26					
27	Allocation Factor			<u>Total</u>	<u>South Dakota</u>
28	Demand Production (12 CP)	Docket No. EL14-026		100%	89.831%
29					
30					
31	Note (1) - Depreciation rate is from Docket No. EL14-026.				



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
REVENUE REQUIREMENT BY CUSTOMER CLASS - ENVIRONMENTAL IMPROVEMENTS
Year Two Revenue Requirement Calculation

Line No.	Description	Reference	South Dakota Forecast
1			
2	Environmental Improvement Year 1 Revenue Requirement	Schedule 4-7 line 2	\$ 200,788
3	(June 1, 2016 through May 31, 2017)		
4			
5	Production Capacity Allocators by Customer Class		
6	Residential	Docket No. EL14-026	38.072%
7	Small General Service	Docket No. EL14-026	30.920%
8	Large General Service and Industrial	Docket No. EL14-026	30.426%
9	Lighting	Docket No. EL14-026	0.582%
10			
11	Revenue Requirement by Customer Class		
12	Residential	line 2 x line 6	\$ 76,444
13	Small General Service	line 2 x line 7	\$ 62,084
14	Large General Service and Industrial	line 2 x line 8	\$ 61,092
15	Lighting	line 2 x line 9	\$ 1,169
16			



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
COST OF SERVICE - ENVIRONMENTAL IMPROVEMENTS
Year Two Revenue Requirement Calculation

Line No.	Description	Reference	South Dakota Jurisdiction
1	Operating Revenue Required		
2	Environmental Improvement Revenue		\$ 200,788
3			
4	Operating Expenses		
5	Depreciation	Schedule 4-9, line 10	57,253
6	Assessed Filing Fee	Docket EL15-008	2,997
7	Total Operating Expenses		<u>60,250</u>
8			
9	Operating Income Before Tax	(line 2 - line 7)	140,538
10			
11	Federal Income Tax	Schedule 4-9, line 21	36,432
12			
13	Return (Operating Income)	Schedule 4-9, line 18 (line 9 - line 11)	<u>\$ 104,106</u>
14			
15	Rate of Return		<u>7.76%</u>
16			
17	Rate Base		
18	Plant in Service	Schedule 4-8, line 8	\$ 2,015,217
19	Less: Accumulated Depreciation	Schedule 4-8, line 11	67,849
20	Less: Accumulated Deferred Income Taxes	Schedule 4-8, sum of line 21	605,797
21			
22	Total Rate Base	(line 18 - line 19 - line 20)	<u>\$ 1,341,571</u>



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
RATE BASE - ENVIRONMENTAL IMPROVEMENTS
Year Two Revenue Requirement Calculation

Line No.	Description	(a) Plant in Service for Rate Base	(b) South Dakota Jurisdictional Allocation	(c) (a) * (b) South Dakota Plant in Service for Rate Base	(d) Date in Service	(e) Note (1) Allocation Based on In-Service Date	(f) (d) * (e) South Dakota Allocation Based on In-Service Date
1	Property, Plant, and Equipment						
2	Wyodak - Mercury Control System	\$ 1,175,438	89.831%	\$ 1,055,908	4/15/2015	100.00%	\$ 1,055,908
3	Wygen III - CO & O2 Grid Install	143,942	89.831%	129,304	1/1/2016	100.00%	129,304
4	NS Common - Compressed Air	756,377	89.831%	679,461	8/19/2016	78.36%	532,426
5	NSII - Electrostatic precipitator (ESP)	1,353,880	89.831%	1,216,204	6/15/2017	0.00%	-
6	NS Common - Amended Silicates Silo - Neil Simpson II	866,281	89.831%	778,189	3/31/2017	16.99%	132,214
7	NS Common - Amended Silicates Silo - Wygen III	490,500	89.831%	440,621	1/15/2017	37.53%	165,365
8	Total Plant in Service - Environmental Improvements	<u>\$ 4,786,418</u>		<u>\$ 1,185,212</u>			<u>\$ 2,015,217</u>
9							
10							
11	Book Depreciation Reserve			Workpaper WP - Plant and Reserve, line 14, column (s) + Schedule 4-9 line 6 * 50% (39222.86 + 28626.4)			<u>67,849</u>
12							
13							
14	Accumulated Deferred Taxes						
15	Environmental Improvements - Plant in Service - South Dakota						\$ 4,786,418
16	MACRS Table - Depreciation Rate (20 year life)						
17	South Dakota Cumulative Tax Depreciation			Workpaper - ADIT Summary, line 23, column (c)			1,828,252
18	South Dakota Book Depreciation			Workpaper - ADIT Summary, line 24, column (c)			<u>97,405</u>
19	Timing Difference						1,730,847
20	Federal Income Tax Rate						<u>35.00%</u>
21	South Dakota Deferred Tax						<u>605,797</u>
22							
23							
24	South Dakota Rate Base				(line 8 - 28626.4 of line 11 - line 21)		<u>\$ 1,380,794</u>
25							
26							
27	Note (1) - Allocation is for the time period 6/1/16 through 5/31/17						



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
OPERATING EXPENSES AND TAXES - ENVIRONMENTAL IMPROVEMENTS
Year Two Revenue Requirement Calculation

Line No.	Description	Reference	South Dakota		
				Note (1)	
			South Dakota Plant in Service	Depreciation Rate	Depreciation Expense
1					
2					
3	Depreciation Expense				
4	Wyodak - Mercury Control System	Schedule 4-8 ln 2	\$ 1,055,908	2.86%	\$ 30,199
5	Wygen III - CO & O2 Grid Install	Schedule 4-8 ln 3	\$ 129,304	2.64%	3,414
6	NS Common - Compressed Air	Schedule 4-8 ln 4	\$ 532,426	2.90%	15,440
7	NSII - Electrostatic precipitator (ESP)	Schedule 4-8 ln 5	\$ -	2.90%	-
8	NS Common - Amended Silicates Silo - Neil Simpson II	Schedule 4-8 ln 6	\$ 132,214	2.90%	3,834
9	NS Common - Amended Silicates Silo - Wygen III	Schedule 4-8 ln 7	\$ 165,365	2.64%	4,366
10	Depreciation Expense - South Dakota				<u>\$ 57,253</u>
11					
12					
13	Federal Tax				
14	Rate Base - South Dakota	Schedule 4-8 line 24			\$ 1,380,794
15					
16	Interest Expense	calculated			39,491
17	Return on Equity	calculated			67,659
18	Return	line 16 + line 17			<u>107,150</u>
19					
20	Authorized Return	Docket No. EL14-026			7.76%
21	Federal Tax Expense - South Dakota	((line 17 x line 25) - line 17)			<u>\$ 36,432</u>
22					
23	Assumptions				
24					
25	Tax Multiplier - Federal Tax Rate at 35% - tax multiplier		(1/(1-.35))		1.5385
26					
27	Allocation Factor			<u>Total</u>	<u>South Dakota</u>
28	Demand Production (12 CP)	Docket No. EL14-026		100%	89.831%
29					
30					
31	Note (1) - Depreciation rate is from Docket No. EL14-026.				



BLACK HILLS POWER, INC. d/b/a BLACK HILLS ENERGY
RESIDENTIAL CUSTOMER IMPACT
EIA Rate Change

<u>LINE NO.</u>	<u>CUSTOMER IMPACT</u>	<u>CURRENT RATES</u>	<u>PROPOSED EIA RATE</u>	<u>INCREASE OR (DECREASE)</u>
1				
2	<u>Residential Service</u>			
3	<i>ENVIRONMENTAL IMPROVEMENT ADJUSTMENT RATE</i>			
4	EIA Rate	\$ / kWh \$ 0.00020	\$ 0.00025	\$ 0.00005
5				
6				
7				
8	Monthly Customer Charge	\$ 9.25		\$ 9.25
9	Energy Charge - Base Rate at average monthly kWh	\$ 0.09989 x	650 kWh	64.93
10	Base Costs	\$ 0.02270 x	650 kWh	14.76
11	Energy Cost Adjustment at average monthly kWh	\$ 0.01350 x	650 kWh	8.78
12	Transmission Facility Adjustment at average monthly kWh	\$ 0.00015 x	650 kWh	0.10
13	Environmental Improvement Adjustment at average monthly kWh	\$ 0.00020 x	650 kWh	0.13
14	Energy Efficiency at average monthly kWh	\$ 0.00040 x	650 kWh	0.26
15	Current Total Bill at monthly average			\$ 98.21
16	EIA Rate Change at monthly average kWh	\$ 0.00005 x	650 kWh	0.03
17	Proposed Total Residential Bill			\$ 98.24
18	Percent Change			0.03%