



ENVIRONMENTAL IMPROVEMENT ADJUSTMENT
For the Pro Forma Year Ended May 31, 2016

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BLACK HILLS POWER
COST RECOVERY RATE - ENVIRONMENTAL IMPROVEMENTS
For the Pro Forma Year Ended May 31, 2016

Exhibit 4
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Schedule 4-1

Line No.	Description	Reference	South Dakota Forecast
1			
2	Environmental Improvement Annual Revenue Requirement (June 1, 2015 through May 31, 2016)	Schedule 4-2 line 2	\$ 157,384
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	line 2 x line 5	\$ 59,919
12	Small General Service	line 2 x line 6	\$ 48,663
13	Large General Service and Industrial	line 2 x line 7	\$ 47,886
14	Lighting	line 2 x line 8	\$ 916
15			
16	Forecasted South Dakota kWh sales		
17	Residential	6/1/15 - 5/31/16 BHP Sales Budget	515,920,540
18	Small General Service	6/1/15 - 5/31/16 BHP Sales Budget	425,969,988
19	Large General Service and Industrial	6/1/15 - 5/31/16 BHP Sales Budget	527,698,670
20	Lighting	6/1/15 - 5/31/16 BHP Sales Budget	14,208,746
21			
22	Environmental Improvement Adjustment Rate / kWh (June 1, 2015 through May 31, 2016)		
23	Residential	line 11 ÷ line 17	\$ 0.00012
24	Small General Service	line 12 ÷ line 18	\$ 0.00011
25	Large General Service and Industrial	line 13 ÷ line 19	\$ 0.00009
26	Lighting	line 14 ÷ line 20	\$ 0.00006



BLACK HILLS POWER
COST OF SERVICE - ENVIRONMENTAL IMPROVEMENTS
For the Pro Forma Year Ended May 31, 2016

Line No.	Description	Reference	South Dakota Jurisdiction
1	Operating Revenue Required		
2	Environmental Improvement Revenue		\$ 157,384
3			
4	Operating Expenses		
5	Depreciation	Schedule 4-4, line 6	33,250
6	Assessed Filing Fee	Estimate	5,345
7	Total Operating Expenses		<u>38,595</u>
8			
9	Operating Income Before Tax	(line 2 - line 7)	118,789
10			
11	Federal Income Tax	Schedule 4-4, line 17	30,141
12			
13	Return (Operating Income)	Schedule 4-4, line 14 (line 9 - line 11)	<u>\$ 88,648</u>
14			
15	Rate of Return		<u>7.76%</u>
16			
17	Rate Base		
18	Plant in Service	Schedule 4-3, line 4	1,162,612
19	Less: Accumulated Depreciation	Schedule 4-3, line 7	16,625
20	Less: Accumulated Deferred Income Taxes	Schedule 4-3, line 17	3,622
21			
22	Total Rate Base	(line 18 - line 19 - line 20)	<u>\$ 1,142,365</u>



BLACK HILLS POWER
RATE BASE - ENVIRONMENTAL IMPROVEMENTS
For the Pro Forma Year Ended May 31, 2016

Exhibit 4
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Schedule 4-3

Line No.	Description	(a) Plant in Service for Rate Base	(b) South Dakota Jurisdictional Allocation Sched B-4 line 24	(c) (a) * (b) South Dakota Plant in Service for Rate Base	(d) Date in Service	(e) 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	\$ 1,146,209	89.831%	\$ 1,029,651	4/15/2015	112.88% (1)	\$ 1,162,270
3	Wygen III - CO & O2 Grid Install	140,866	89.831%	126,541	5/31/2016	0.27% (2)	342
4	Total Plant in Service - Environmental Improvements	<u>\$ 1,287,075</u>		<u>\$ 1,156,192</u>			<u>\$ 1,162,612</u>
5							
6							
7	Book Depreciation Reserve				Schedule 4-4 line 6 x 50%		<u>16,625</u>
8							
9							
10	Accumulated Deferred Taxes						
11	Environmental Improvements - Plant in Service - South Dakota					line 4	1,162,612
12	MACRS Table - Depreciation Rate (20 year life)						<u>3.75%</u>
13	South Dakota Tax Depreciation					line 11 x line 12	43,598
14	South Dakota Book Depreciation					Schedule 4-4 line 6	<u>33,250</u>
15	Timing Difference					line 13 - line 14	10,348
16	Federal Income Tax Rate						<u>35.00%</u>
17	South Dakota Deferred Tax					line 15 x line 16	<u>3,622</u>
18							
19							
20	South Dakota Rate Base					(line 4 - line 7 - line 17)	<u>\$ 1,142,365</u>
21							
22							
23	Note (1) - Allocation is for the time period from the in-service date through 5/31/16.						
24	Note (2) - Allocation is for the time period of 6/1/15 through 5/31/16.						



BLACK HILLS POWER
OPERATING EXPENSES AND TAXES - ENVIRONMENTAL IMPROVEMENTS
For the Pro Forma Year Ended May 31, 2016

Line No.	Description	Reference	(Note 1)		South Dakota
			South Dakota Plant in Service	Depreciation Rate	Depreciation Expense
1					
2					
3	Depreciation Expense				
4	Wyodak - Mercury Control System	Schedule 4-3 In 2	1,162,270	2.86%	33,241
5	Wygen III - CO & O2 Grid Install	Schedule 4-3 In 3	342	2.64%	9
6	Depreciation Expense - South Dakota				<u>33,250</u>
7					
8					
9	Federal Tax				
10	Rate Base - South Dakota	Schedule 4-3 line 20			1,142,365
11					
12	Interest Expense	calculated			32,673
13	Return on Equity	calculated			55,976
14	Return	line 12 + line 13			<u>88,649</u>
15					
16	Authorized Return	Docket No. EL14-026			7.76%
17	Federal Tax Expense - South Dakota	((line 13 x line 21) - line 13)			<u>30,141</u>
18					
19					
20	Assumptions				
21	Tax Multiplier - Federal Tax Rate at 35% - tax multiplier	(1/(1-.35))			1.5385
22					
23	Allocation Factor			<u>Total</u>	<u>South Dakota</u>
24	Demand Production (12 CP)	Docket No. EL14-026		100%	89.831%
25					
26					
27	Note (1) Depreciation rate is from Docket No. EL14-026.				



BLACK HILLS POWER
RESIDENTIAL CUSTOMER IMPACT
 For the Pro Forma Year Ended May 31, 2016

<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	\$ -	\$ 0.00012	\$ 0.00012
5	Total Charge \$ / kWh	\$ -	\$ 0.00012	\$ 0.00012
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	\$ 0.00700 x	650 kWh	4.55
12	Energy Efficiency at average monthly kWh	\$ 0.00020 x	650 kWh	0.13
13	Transmission Facility at average monthly kWh	\$ 0.00023 x	650 kWh	0.15
14	Current Total Bill at monthly average			\$ 93.76
15	EIA Rate Change at monthly average kWh	\$ 0.00012 x	650 kWh	0.08
16	Proposed Total Residential Bill			\$ 93.84
17	Percent Change			0.08%