

MidAmerican Energy Company
Rate RBD Weather Normalization Calculation
2014 South Dakota Electric Rate Case

Weather Normalization Results Support
Test Year Ending December 31, 2012

I. Monthly Usage and Weather Data

Rate	Month	Billed Sales	Billed Sales Above 1000 kWh	Bills	Total Days Billed	Total Billed HDD 55	Total Billed CDD 65	Total Normal Billed HDD 55	Total Normal Billed CDD 65	Average Billing Days Per Bill	Calendar Days per Month
RBD	201301	2,575,139	822,218	2,453	84,417	2,732,704	-	2,811,973	-	34	31
RBD	201302	2,063,163	518,192	2,447	71,710	2,260,357	-	2,427,208	-	29	28
RBD	201303	1,984,840	469,456	2,448	71,695	2,140,314	-	1,937,969	-	29	31
RBD	201304	1,832,490	372,239	2,450	73,286	1,527,877	-	1,144,956	1	30	30
RBD	201305	1,646,873	248,939	2,456	71,943	767,633	17,075	397,664	42,128	29	31
RBD	201306	1,862,496	330,688	2,457	75,300	91,098	145,535	57,770	193,486	31	30
RBD	201307	2,639,921	751,099	2,452	72,785	-	603,544	-	526,940	30	31
RBD	201308	2,825,650	905,379	2,449	75,487	-	580,948	-	701,447	31	31
RBD	201309	2,817,160	860,418	2,445	73,048	-	617,214	900	486,610	30	30
RBD	201310	2,153,843	499,784	2,438	72,509	32,723	286,248	109,440	166,049	30	31
RBD	201311	1,794,748	319,760	2,437	72,936	686,404	35,039	562,626	14,019	30	30
RBD	201312	2,064,041	490,828	2,439	75,300	1,793,201	-	1,626,417	-	31	31

Rate	Month	Billing kWh per Customer	Billing kWh per Customer per Day	Actual Billing HDD 55/Day	Actual Billing CDD 65/Day	Normal Billing HDD 55/Day	Normal Billing CDD 65/Day	Normal Calendar HDD 55/Day	Normal Calendar CDD 65/Day
RBD	201301	1,050	30.50	32.37	0.00	33.31	0.00	34.71	0.00
RBD	201302	843	28.77	31.52	0.00	33.85	0.00	29.89	0.00
RBD	201303	811	27.68	29.85	0.00	27.03	0.00	18.74	0.00
RBD	201304	748	25.00	20.85	0.00	15.62	0.00	7.40	0.33
RBD	201305	671	22.89	10.67	0.24	5.53	0.59	1.16	1.74
RBD	201306	758	24.73	1.21	1.93	0.77	2.57	0.00	6.23
RBD	201307	1,076	36.27	0.00	8.29	0.00	7.24	0.00	9.55
RBD	201308	1,154	37.43	0.00	7.70	0.00	9.29	0.00	7.52
RBD	201309	1,152	38.57	0.00	8.45	0.01	6.66	0.80	2.73
RBD	201310	883	29.70	0.45	3.95	1.51	2.29	6.29	0.26
RBD	201311	736	24.61	9.41	0.48	7.71	0.19	19.40	0.00
RBD	201312	846	27.41	23.81	0.00	21.60	0.00	32.48	0.00

Billing kWh per customer per day and Actual billing HDD and CDD per day are used in the weather normalization regression model.

MidAmerican Energy Company
Rate RBD Weather Normalization Calculation
2014 South Dakota Electric Rate Case

Weather Normalization Results Support
Test Year Ending December 31, 2012

I. Monthly Usage and Weather Data

II. Weather Normalization Model (Use per customer per day vs. CDD and HDD per day)

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.9851
R Square	0.9704
Adjusted R Square	0.9638
Standard Error	1.0108
Observations	12

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	301.5136	150.7568	147.5610	1.3194E-07
Residual	9	9.1949	1.0217		
Total	11	310.7085			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	20.3940	0.8184	24.9183	0.0000	18.5426	22.2454	18.5426	22.2454
HDD 55/Day	0.2717	0.0351	7.7456	0.0000	0.1924	0.3511	0.1924	0.3511
CDD 65/Day	2.1053	0.1332	15.8017	0.0000	1.8039	2.4067	1.8039	2.4067

Weather normalization model is calculated using Excel and models actual billed use per customer per day against actual billed HDD and CDD per day.

MidAmerican Energy Company
Rate RBD Weather Normalization Calculation
2014 South Dakota Electric Rate Case

Weather Normalization Results Support
Test Year Ending December 31, 2012

I. Monthly Usage and Weather Data

III. Billed Sales and Revenue Adjustment

Winter Usage	1st Step Percentage	Actual Use/Bill	Actual % in 2nd Step	Weather Normalized Use/Bill	Weather Normalized % in 2nd Step	Step 1 Adjustment	Step 2 Adj. Adjustment	HDD Weather Normalization Adjustment	CDD Weather Normalization Adjustment	Total Weather Normalization Adjustment
1,050	31.9%	1050	31.9%	1059	32.3%	4,943	16,594	21,538	-	21,538
843	25.1%	843	25.1%	862	25.9%	17,295	28,039	45,334	-	45,334
811	23.7%	811	23.7%	788	22.7%	(23,501)	(31,477)	(54,978)	-	(54,978)
748	20.3%	748	20.3%	705	18.5%	(51,626)	(52,414)	(104,041)	1	(104,040)
671	15.1%	671	15.1%	651	14.3%	(27,293)	(20,484)	(100,522)	52,745	(47,777)
883	23.2%	758	17.8%	796	19.0%	50,563	41,333	(9,055)	100,951	91,896
736	17.8%	1076	28.5%	1011	26.2%	(59,611)	(101,666)	-	(161,278)	(161,278)
846	23.8%	1154	32.0%	1257	35.6%	63,264	190,425	-	253,689	253,689
		1152	30.5%	1040	26.7%	(93,075)	(181,644)	244	(274,964)	(274,719)
Summer Usage	1st Step Percentage	883	23.2%	788	19.1%	(100,326)	(131,887)	20,844	(253,057)	(232,213)
758	17.8%	736	17.8%	704	16.5%	(40,626)	(37,259)	(33,631)	(44,254)	(77,885)
1,076	28.5%	846	23.8%	828	23.0%	(18,553)	(26,763)	(45,316)	-	(45,316)
1,154	32.0%		W Slope: 0.0004262		Winter kWh Adjustment:	(239,687)	(255,650)			(585,749)
1,152	30.5%		S Slope: 0.0003422		Summer kWh Adjustment:	(38,860)	(51,552)			
					Winter Revenue Rate:	\$ 0.0612	\$ 0.0490			
					Summer Revenue Rate:	\$ 0.0634	\$ 0.0610			
					Winter Revenue Adjustment:	\$ (14,669)	\$ (12,527)			
					Summer Revenue Adjustment:	\$ (2,464)	\$ (3,145)			

The differences normal and actual billed HDD and CDD per day are multiplied by the respective model coefficients to get a normalization amount per day, which is then multiplied by the average billing days in the month (per bill) and the total number of bills in the month to determine the total weather adjustment or the billing month.

Normalization amounts by step are calculated for each month by estimating the difference in the split between the first and second step of the rate between actual use per month and weather normalized use per month. The difference between these splits is used to allocate the monthly adjustment between setp.

The adjustments in each step are multiplied by the respective rates to calculate a revenue adjustment amount.

MidAmerican Energy Company
Rate RBD Weather Normalization Calculation
2014 South Dakota Electric Rate Case

Weather Normalization Results Support
Test Year Ending December 31, 2012

I. Monthly Usage and Weather Data

IV. Unbilled Sales and Revenue Adjustment

HDD Weather Adjustment Actual Billed to Normal Calendar	CDD Weather Adjustment Actual Billed to Normal Calendar	Weather Normalized Calendar Use per Cust. per Day	Weather Normalized Monthly Calendar Sales				
0.64	-	31.14	2,368,001	unbilled sales adj. step 1	72.4%	(483,232)	
(0.44)	-	28.33	1,940,592	unbilled sales adj. step 2	27.6%	(184,637)	
(3.02)	-	24.67	1,871,866	unbilled revenue adj. step 1	\$ 0.0612	\$ (29,574)	
(3.65)	0.70	22.05	1,621,121	unbilled revenue adj. step 2	\$ 0.0490	\$ (9,047)	
(2.58)	3.17	23.48	1,786,965				
(0.33)	9.05	33.46	2,466,053				
-	2.64	38.91	2,958,439	Actual Billed Sales:		26,260,364	
-	(0.38)	37.05	2,813,491	W.N. Billed Sales:		25,674,615	(585,749) adjustment
0.22	(12.03)	26.75	1,962,362	Actual Unbilled Sales:		734,666	
1.59	(7.77)	23.52	1,778,041	W.N. Unbilled Sales:		66,798	(667,868) adjustment
2.71	(1.01)	26.31	1,923,875	Actual Calendar Sales:		26,995,030	
2.36	-	29.77	2,250,607	W.N. Calendar Sales:		25,741,412	
			25,741,412				

The differences normal calendar HDD and CDD per day and actual billed HDD and CDD per day are multiplied by the respective model coefficients to get a normalization amount per calendar day, which is then multiplied by the calendar days in the month and the total number of bills in the month to determine total calendar month weather normalized sales.

The difference between annual weather normalized billed sales and annual weather normalized calendar sales is assumed to be weather normalized unbilled sales. The difference between weather normalized and actual unbilled sales is the unbilled sales adjustment, which is allocated to step based on the weather normalized split for January and December. The adjustment amount for each step is multiplied by the respective rate to calculate an unbilled revenue adjustment amount.