

Rocky Mountain Power
Exhibit RMP__(MGW-1R)
Docket No. 14-035-114
Witness: Michael G. Wilding

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Michael G. Wilding

Revised NPC Analysis

July 2017

Exhibit RMP___(MGW-1R) (Updated Interconnection Costs and Variable O&M)
 Net Power Cost Analysis of the Net Metering Program
 Study Period: January - December 2015

Line No.	Reference	Units	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Total
Change in Net Power Costs Between Diverse 0															
1	System Balancing Sales	\$	5,669	8,209	12,076	47,524	36,868	39,515	167,538	145,566	86,041	54,968	26,775	25,986	25,986
2	System Balancing Purchases	\$	26,884	30,678	40,649	32,244	34,334	103,982	64,497	72,274	8,422	17,317	14,228	5,025	5,025
3	Coal Fuel Burn Expense	\$	11,650	20,856	35,624	20,519	38,666	30,063	9,020	10,100	67,054	60,742	43,066	21,620	21,620
4	Gas Fuel Burn Expense	\$	957	2,483	5,386	2,797	3,706	24	2,319	26	(282)	2,178	5,643	(694)	(694)
5	Change in Net Power Cost	\$	45,340	62,220	94,015	102,683	113,573	172,694	233,374	227,966	161,236	135,205	89,709	52,200	52,200
Change in Energy Interconnection Base Study															
6	System Balancing Sales	MWh	256	471	659	2,380	1,894	1,480	4,483	4,045	2,967	2,137	1,067	1,062	1,062
7	System Balancing Purchases	MWh	1,177	1,515	2,014	1,604	1,551	3,786	1,747	1,990	332	658	1,079	218	218
8	Coal Generation	MWh	510	1,046	1,781	1,019	1,608	1,370	358	436	2,906	2,693	1,990	985	985
9	Gas Generation	MWh	45	134	289	224	162	(47)	68	(38)	(294)	155	255	(41)	(41)
10	UT Net Metering Solar Generation	MWh	1,989	3,166	4,642	5,227	5,115	6,599	6,665	6,433	6,170	5,643	3,891	2,244	2,244
Unit Costs (\$/MWh) of Change Between Base Study and No NetM Study															
11	System Balancing Sales	\$/MWh	22.92	19.97	21.61	19.89	23.13	26.52	35.05	35.99	29.09	25.73	25.09	23.93	23.93
12	System Balancing Purchases	\$/MWh	22.83	19.47	20.18	20.10	22.13	27.23	36.82	36.31	25.40	26.30	24.56	23.09	23.09
13	Coal Fuel Burn Expense	\$/MWh	22.83	19.95	20.17	19.94	21.39	21.94	25.22	23.17	23.98	22.86	21.64	22.26	22.26
14	Gas Fuel Burn Expense	\$/MWh	20.71	18.54	18.58	12.50	22.82	(0.50)	34.12	(0.70)	11.55	14.08	22.15	15.83	15.83
15	Total Unit Costs \$/MWh	\$/MWh	22.79	19.65	20.25	19.65	22.20	28.17	35.01	35.44	26.13	23.96	23.08	23.26	23.26
Percentage Change or Weight of NPC															
16	System Balancing Sales	%	13.87%	12.98%	12.94%	65.33%	31.16%	22.98%	67.41%	63.87%	47.93%	37.67%	37.42%	48.31%	48.31%
17	System Balancing Purchases	%	99.19%	49.76%	43.80%	30.90%	30.53%	57.98%	26.21%	30.94%	53.7%	11.07%	14.89%	9.70%	9.70%
18	Coal Generation	%	25.66%	33.02%	38.36%	19.49%	35.34%	20.78%	5.77%	6.78%	47.69%	47.72%	51.14%	43.89%	43.89%
19	Gas Generation	%	2.86%	4.23%	6.22%	4.28%	3.17%	-0.72%	1.02%	-0.59%	-0.40%	2.74%	6.55%	-1.81%	-1.81%
20	Total	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Market Transactions															
Base Palo Verde Market Price															
21	UT Net Metering Generation HLH	MWh	1,697	2,638	3,890	4,469	3,969	5,673	5,662	5,423	5,055	4,917	2,970	1,894	1,894
22	UT Net Metering Generation LLH	MWh	52	247	353	734	1,147	965	1,163	1,010	1,176	1,115	726	921	921
23	UT Net Metering Generation LHL	\$/MWh	25.70	24.17	25.07	24.05	24.04	31.72	34.02	34.88	29.72	26.90	22.69	21.99	21.99
24	Base Palo Verde HLH	\$/MWh	24.10	21.45	21.90	21.50	21.25	24.50	24.50	25.49	24.01	24.72	23.52	23.76	23.76
25	Base Palo Verde Market Price	\$/MWh	25.54	23.75	24.56	23.65	23.45	27.45	33.07	32.94	29.84	27.92	26.35	26.70	26.70
26	Line 1 - Line 25	\$/MWh	22.85	19.57	20.49	19.97	22.04	27.03	35.69	36.10	26.72	25.88	24.91	23.79	23.79
27	Compared to Base Palo Verde Market Price	%	89.5%	82.5%	83.4%	84.4%	88.7%	89.4%	107.6%	109.6%	99.2%	93.6%	94.5%	89.1%	89.1%
Actual Palo Verde Market Price															
28	UT Net Metering Generation HLH	MWh	1,697	2,638	3,890	4,463	3,968	5,673	5,662	5,423	5,055	4,917	2,970	1,894	1,894
29	UT Net Metering Generation LLH	MWh	292	529	753	1,147	925	1,103	1,103	1,010	1,115	726	921	350	350
30	Actual Palo Verde HLH	\$/MWh	25.79	24.17	25.07	24.05	24.04	31.72	34.02	34.88	29.72	26.90	22.69	21.99	21.99
31	Adjusted Actual Palo Verde HLH	\$/MWh	24.12	21.54	22.08	21.81	21.62	22.24	24.72	24.91	23.96	21.70	20.68	19.21	19.21
32	Actual Palo Verde Market Price	\$/MWh	25.98	23.75	24.59	23.71	23.36	30.39	32.48	33.40	28.61	26.23	22.21	21.22	21.22
33	Adjusted Actual Palo Verde Market Price	\$/MWh	22.89	19.59	20.52	20.02	20.73	29.89	35.06	36.00	28.39	24.96	21.00	16.90	16.90
2015 Actual NPC															
Dollars (\$/000)															
34	Coal Fuel Burn Expense	\$/ (000)	71,690	61,222	70,981	65,574	69,881	69,888	70,614	71,953	64,237	59,312	56,904	69,348	69,348
35	Natural Gas Fuel Burn Expense	\$/ (000)	24,309	19,353	19,892	18,448	21,287	24,536	28,488	27,849	26,574	22,984	21,945	23,024	23,024
Energy (MWh 000)															
36	Coal Generation	MWh (000)	3,657	3,166	3,540	3,333	3,394	3,618	3,627	3,716	3,450	3,164	3,021	3,613	3,613
37	Natural Gas Generation	MWh (000)	662	462	492	588	722	872	996	939	907	818	830	679	679
Actual Unit Costs (\$/MWh)															
38	Natural Gas Fuel Burn Expense + Variable O&M	\$/MWh	20.82	20.95	21.16	20.89	20.74	20.53	20.68	20.98	19.84	19.86	20.05	20.10	20.10
39	Natural Gas Fuel Burn Expense + Variable O&M (Line 35 / Line 37) + \$0.24	\$/MWh	35.38	39.61	40.64	31.62	33.73	28.37	28.85	29.91	29.54	28.31	26.69	26.45	26.45
NPC Unit Benefit of Net Metering Generation															
40	Unit Value of Solar - Sales	\$/MWh	2.95	2.54	2.47	9.12	6.48	6.75	23.63	23.01	13.61	9.30	6.76	9.12	9.12
41	Unit Value of Solar - Purchases	\$/MWh	13.95	9.75	8.90	6.14	6.28	17.15	9.19	11.32	1.53	2.87	3.13	1.83	1.83
42	Unit Value of Solar - Coal	\$/MWh	5.34	6.79	8.12	4.07	7.40	4.26	1.11	1.39	9.34	9.53	10.26	8.82	8.82
43	Unit Value of Solar - Gas	\$/MWh	0.80	1.68	2.53	1.35	0.94	(0.20)	0.29	(0.18)	(0.12)	0.78	1.75	(0.48)	(0.48)
44	Integration Cost - Fixed Solar	\$/MWh	(0.04)	(0.26)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.26)	(0.26)	(0.26)
45	Total Unit Value of Solar MWh	\$/MWh	22.04	20.19	21.41	20.09	20.49	27.38	33.62	34.96	23.76	21.07	20.28	16.89	16.89
NPC Benefit of Net Metering Generation															
46	Total NPC Benefit of Net Metering Generation	\$	43,839	63,810	99,412	104,888	104,801	169,537	224,695	224,877	146,580	123,369	76,931	41,953	41,953