

Rocky Mountain Power
Exhibit RMP__(MGW-1)
Docket No. 16-035-__
Witness: Michael G. Wilding

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Michael G. Wilding

NPC Analysis

November 2016

Witness: Michael G. Wilding

Exhibit RMP (MGW-1)
 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 Base Study and No NEM Study															
	Dollars (\$)														
1	System Balancing Sales	\$	5,689	8,209	12,076	47,324	36,868	39,515	157,538	145,566	86,041	54,988	26,775	25,896	
2	System Balancing Purchases	\$	26,884	30,678	40,649	32,244	34,334	103,092	64,497	73,274	8,422	17,317	14,226	5,025	
3	Coal Fuel Burn Expense	\$	11,660	20,859	35,924	20,319	36,666	30,063	9,020	10,100	67,054	60,742	43,065	21,920	
4	Gas Fuel Burn Expense	\$	937	2,483	5,366	2,797	3,706	24	2,319	26	(282)	2,178	5,643	(642)	
5	Change in Net Power Cost	\$	46,340	62,230	94,015	102,683	113,573	172,694	233,374	227,966	161,236	135,205	89,709	52,200	
Change in Energy Between Base Study and No NEM Study															
	MWh		256	411	559	2,380	1,594	1,490	4,493	4,045	2,957	2,137	1,067	1,082	
6	System Balancing Sales	MWh	1,177	1,576	2,014	1,604	1,551	3,786	1,747	1,990	332	656	579	218	
7	System Balancing Purchases	MWh	510	1,046	1,781	1,019	1,808	1,370	388	436	2,906	2,693	1,990	985	
8	Coal Generation	MWh	45	134	289	224	162	(47)	68	(38)	(24)	155	255	(41)	
9	Gas 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	
10	UT Net Metering Solar Generation	MWh													
Unit Costs (\$/(MWh)) of Change Between Base Study and No NEM Study															
	\$/MWh		22.92	19.97	21.61	19.89	23.13	26.52	35.06	35.99	29.09	25.73	25.09	23.93	
11	System Balancing Sales	\$/MWh	22.92	19.97	21.61	19.89	23.13	26.52	35.06	35.99	29.09	25.73	25.09	23.93	
12	System Balancing Purchases	\$/MWh	22.83	19.47	20.18	20.10	22.13	27.23	36.92	36.31	25.40	26.30	24.56	23.09	
13	Coal Fuel Burn Expense	\$/MWh	22.63	19.56	20.17	19.94	21.94	25.22	23.17	23.08	23.06	22.56	21.64	22.26	
14	Gas Fuel Burn Expense	\$/MWh	20.71	18.54	18.59	12.50	22.82	(0.50)	34.12	(0.70)	11.55	14.08	22.15	15.63	
15	Total Unit Costs /MWh	\$/MWh	22.79	19.65	20.25	19.65	22.20	26.17	35.01	35.44	26.13	23.96	23.06	23.26	
Percentage Change or Weight of NPC Component															
	%		12.87%	12.98%	12.04%	45.53%	31.16%	22.58%	67.41%	62.87%	47.93%	37.87%	27.42%	48.23%	
16	System Balancing Sales	%	59.19%	49.76%	43.38%	30.89%	30.33%	57.38%	26.21%	30.94%	5.37%	11.67%	14.89%	9.70%	
17	System Balancing Purchases	%	23.65%	33.02%	36.36%	19.49%	35.34%	20.16%	5.37%	6.18%	47.09%	47.72%	51.14%	43.88%	
18	Coal Generation	%	2.85%	4.25%	6.22%	4.23%	3.17%	-0.72%	1.05%	-0.59%	-0.02%	2.15%	6.59%	-1.83%	
19	Gas Generation	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
20	Total	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Market Transactions															
Base Palo Verde Market Price															
16	UT Net Metering Generation HLH	MWh	1,697	2,638	3,890	4,493	3,968	5,673	5,562	5,423	5,055	4,917	2,970	1,894	
17	UT Net Metering Generation LLH	MWh	292	529	753	734	1,147	925	1,103	1,010	1,115	726	921	350	
18	Base Palo Verde HLH	\$/MWh	25.79	24.17	25.07	24.00	26.75	28.50	34.65	34.32	30.03	28.05	27.23	27.23	
19	Base Palo Verde LLH	\$/MWh	24.10	21.45	21.90	21.50	21.25	21.25	24.50	25.49	24.01	24.72	23.52	23.76	
Actual Palo Verde Market Price															
20	Base Palo Verde Market Price	\$/MWh	25.54	23.72	24.56	23.65	25.52	27.48	32.87	32.94	28.94	27.62	26.35	26.70	
21	Unit Cost Change of Market Transactions	\$/MWh	22.85	19.57	20.49	19.97	22.64	27.03	35.59	36.10	28.72	25.86	24.91	23.79	
22	Compared to Base Palo Verde Market Price	%	89.5%	82.5%	83.4%	84.4%	88.7%	98.4%	107.9%	109.6%	98.2%	93.6%	94.5%	89.1%	
2015 Actual NPC															
	Dollars (\$000)														
28	Coal Fuel Burn Expense	\$ (000s)	71,690	61,222	70,591	65,574	66,951	69,898	70,614	71,953	64,237	59,312	58,905	69,248	797,186
29	Natural Gas Fuel Burn Expense	\$ (000s)	24,399	19,353	19,892	18,448	21,287	24,536	28,498	27,849	26,574	22,964	21,945	23,024	276,679
Energy (MWh 000)															
30	Coal Generation	MWh (000s)	3,657	3,166	3,540	3,333	3,394	3,618	3,627	3,716	3,450	3,164	3,021	3,613	41,301
31	Natural Gas Generation	MWh (000s)	692	492	492	588	722	872	996	939	907	818	830	879	9,226
Actual Unit Costs (\$/(MWh))															
32	Coal Fuel Burn Expense	\$/MWh	19.60	19.34	19.94	19.67	19.72	19.32	19.47	19.36	18.62	18.75	18.84	18.89	19,300
33	Natural Gas Fuel Burn Expense	\$/MWh	35.14	39.37	40.40	31.38	29.49	28.13	28.61	29.67	29.30	28.07	26.45	26.21	30,211
NPC Unit Benefit of Net Metering Generation															
34	Unit Value of Solar - Purchases/Sales	\$/MWh	2.95	2.54	2.47	9.12	6.46	6.75	23.63	23.01	13.61	9.30	5.76	9.12	
35	Integration Cost - Fixed Solar	\$/MWh	13.55	9.75	8.90	6.14	6.28	17.15	9.19	11.32	1.53	2.87	3.13	1.83	
36	Unit Value of Solar - Coal	\$/MWh	5.03	6.39	7.65	3.83	6.97	4.01	1.04	1.31	8.77	8.95	9.63	8.29	
37	Unit Value of Solar - Gas	\$/MWh	0.80	1.67	2.51	1.34	0.94	(0.20)	0.29	(0.17)	(0.12)	0.77	1.73	(0.47)	
38	Integration Cost - Fixed Solar	\$/MWh	(2.83)	(2.83)	(2.83)	(2.83)	(2.83)	(2.83)	(2.83)	(2.83)	(2.83)	(2.83)	(2.83)	(2.83)	
39	Total Unit Value of Solar /MWh	\$/MWh	19.49	17.51	18.70	17.61	17.82	24.86	31.32	32.64	20.95	19.05	17.42	15.94	22,228
NPC Benefit of Net Metering Generation															
40	Total NPC Benefit of Net Metering Generation	\$	38,772	55,445	86,824	92,039	91,155	164,156	206,780	210,010	129,292	107,494	67,773	35,761	1,287,503