BEFORE THE PUBLIC UTILITIES COMMISSION OF COLORADO

DOCKET NO. 08I-420EG

IN THE MATTER OF THE INVESTIGATION OF REGULATORY AND RATE INCENTIVES FOR GAS AND ELECTRIC UTILITIES

COMMENTS OF THE MONTE VISTA COOPERATIVE, SAN LUIS VALLEY RC&D, AND SIX OTHERS (SLV GROUP)
October 30, 2008

Wayne Caldwell submits the following set of comments on behalf of the Monte Vista Cooperative, the San Luis Valley Resource Conservation & Development Council, and six others including Alvin Kunugi, Craig Miner, Ernie New, Jack Gilleland, Jamie Hart and Mike Prentice (SLV Group) in the above captioned Docket related to the Colorado Public Utilities Commission ("PUC") investigation of regulatory and rate incentives for customers of gas and electric utilities. These comments are submitted in response to Commission decision C08-0988. I will focus my comments here only on the new statutory section 40-3-111(b) relating to the use of solar and other renewable energy resources in agricultural applications.

RESPONSES TO SELECTED QUESTIONS
Appendix A of Docket No. 08I-420EG

3. Section 40-3-111(b) is a new statutory section enacted in 2008 that requires the Commission to consider whether to adopt electric rate structures that enable the use of solar or other renewable energy resources in agricultural applications.

a. Should this investigation apply only to agricultural uses of solar and other renewable resources, or should the Commission consider other customer applications?

The SLV Group represents the interests in thirteen 10KW solar photo voltaic systems situated in the San Luis Valley within the Xcel Energy electrical distribution system. Five of the 10KW systems are operational and are connected to the Xcel Energy grid and help to supply power for irrigation pumps connected to center pivot sprinklers supplying the water needs for crops such as potatoes, barley, wheat, and alfalfa. One 10KW system is completed but has not been connected to the Xcel Energy grid due to the problems uncovered with the rate structure. Seven of the 10KW systems have received funding help from the State's ACRE Program and are waiting for resolution of the rate problem before construction can begin. Those seven systems will be utilized to supplement the power supply for several small commercial applications in the San Luis Valley which will include two fertilizer blending plants, a grain elevator, two convenience/gas stores, and two farm supply stores. The common denominator of all thirteen solar sites is the usage of an Xcel Energy secondary general (SG) electrical meter at each site. The seven commercially related sites furnish agricultural operations with supplies and services. Due to the fact that agriculture is the predominant industry in the San Luis Valley, it is critical that rate structures be adopted that encourage the use of renewable energy resources in small commercial business applications besides in traditional agricultural applications. This is based on the similarity of power use and the fact that small business applications of supply and services are an integral part of most agricultural operations. The SLV Group requests that the Commission consider adopting all small commercial business

applications seeking to utilize renewable energy sources in any special rate structure groups set up for agricultural applications.

b. One possible implementation of this statutory requirement would be to eliminate the demand charge for electricity purchased for agricultural use, and collect demand costs through a variable rate, thereby increasing the price of a marginal-kilowatt-hour. Please comment on this proposal.

As stated, this proposal will provide some additional benefit for agricultural and small commercial applications utilizing solar photo voltaic systems compared to what is available presently in the Xcel Energy rate structure for SG meters. The demand charge on a typical SG meter utilized by the SLV Group is nearly 56% of the total power billing on a selected month. (See attachment labeled "EXHIBIT 2"). In Exhibit 2, an Xcel monthly billing for a SG meter used by the Monte Vista Cooperative is broken down in a spreadsheet isolating fixed and variable costs. On the second page, total variable demand costs were determined to be $871.45, total variable KWH costs were $617.26 and an average cost per kilowatt hour was calculated to be $0.0342. If separate demand costs were reduced to $0.00 as proposed, the $871.45 of variable demand cost added to the variable kilowatt hour cost of $651.21 would total $1522.66 (See attachment labeled "EXHIBIT 3"). This combined cost divided by the usage on this bill of 19040 kilowatt hours results in a new cost of $0.0800 per kilowatt hour. In Exhibit 3, the power savings with a 10KW solar photo voltaic system are calculated to be approximately $100.00 per month when the $0.08 cost per kilowatt hour is used. On an annual basis, this would equate to $1200.00 of power savings compared to the present rate structure which will only generate a savings of $513.00 annually. This boost in savings for solar generated power would be very helpful but there are however, some critical issues connected with

the new savings amount of $1200.00 per year. At the present time, a 10KW solar photovoltaic system will generate $1500.00 to $2000.00 of costs per year which have to be covered by the savings expected from the system. These costs factor in all the Xcel rebates, tax credits and outside funding procured by the SLV Group and represent expenses necessary to operate the systems such as insurance costs, repair and maintenance costs and replacement of the invertors which only have a 10 year life in the 20 year Xcel contract. Another issue is the fact that the systems connected to the five irrigation pumps typically only need to utilize power production over a period of six months or less per year. The generation of power in the other six months will feed back into Xcel grid. This export of energy needs to be equitable to the solar system owner either by earning credits equal to the cost per kilowatt hour in the active period of use or by Xcel permitting the banking of these kilowatt hours until the next irrigation season.

c. Please recommend any other rate structure changes that the Commission should consider as it implements the investigation required by Section 40-3-111(b).

The SLV Group feels that we have been misinformed by previous information supplied by Xcel Energy through their company website and by a publication created by one of their employees. Our group relied on that information to our detriment in the installation of six 10KW solar photo voltaic systems in the San Luis Valley and the planned installation of seven additional 10KW systems. We respectfully request that the Commission implement the following rate structure changes in Section 40-3-111(b):

- Allow small commercial business operations to have the same rate structure treatment proposed for agricultural operations making use of renewable energy resources.

- Establish a special rate group for the above referenced operations utilizing renewable energy systems.

- Eliminate the demand rate structure for the Xcel Energy Secondary General meters and replace it with a new rate structure incorporating 75% of the average historical demand costs per year into the variable kilowatt hour costs by only adding to the present variable kilowatt hour costs.

- Allow banking of kilowatt hours generated by solar systems for small business applications and agricultural operations during periods of low use provided any credits are used up within twelve months of the month excess power was generated.

- Preserve the formulas for calculation of the variable kilowatt hour costs for this special rate group in accordance to what is done in other secondary general meters without a solar photo voltaic connect..

Thank you for this opportunity to comment.

Respectfully submitted this 30th day of October, 2008

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ANALYSIS OF FIXED AND VARIABLE COSTS FOR AN XCEL ELECTRIC METER - MV COOP

XCEL ACCOUNT NO.	53-1060253-2
METER NO.	00000W37235T
ADDRESS	260 COUNTY RD 38, MONTE VISTA, CO 81144
FACILITY	MV COOP C-STORE
BILL DATE	11/5/2007
KWHR	19040
BILLED DEMAND	58

XCEL ENERGY INVOICE DETAILS	FIXED CHG	VAR CHG DEMAND	VAR CHG KWHR	LINE TOTALS
SECONDARY GENERAL CHARGE				
BASE CHARGE (BASED ON 30 DAY BILL CYCLE AND PRORATED FOR LESS OR MORE DAYS IN A CYCLE)	$ 25.00			$ 25.00
POWER USE (KWHR X .00288)			$ 54.84	54.84
TOTAL XCEL LINE ITEM CHARGE				
GRSA CHARGE				
(SG CHG + DEMAND CHG) x 0.127				
SG CHG PORTION FOR FIXED CHG (25.00 X .127)	3.18			3.18
SG CHG PORTION FOR VAR CHG (54.84 X .127)			6.96	6.96
DEMAND CHG PORTION (487.20 X 0.127)		61.87		61.87
TOTAL XCEL LINE ITEM CHARGE				
DEMAND CHARGE				
BILLED DEMAND X SEASONAL RATE (58 X 8.40)				
WINTER RATE IS $8.40 (OCT-MAY)		487.20		487.20
SUMMER RATE IS $9.40 (JUN-SEP)				
TOTAL XCEL LINE ITEM CHARGE				
AIR QUALITY IMPROVEMENT CHARGE				
KWHR X 0.00085 (19040 x 0.00085)			16.18	16.18
TOTAL XCEL LINE ITEM CHARGE				
ELECTRIC COMMODITY ADJ				
KWHR X 0.02813 (19040 X 0.02813)			535.60	535.60
TOTAL XCEL LINE ITEM CHARGE				
DEMAND SIDE MANAGEMENT COST				
BILLED DEMAND X 0.41 (58 X 0.41)		23.78		23.78
TOTAL XCEL LINE ITEM CHARGE				
PURCHASE CAPITAL COST ADJ				
BILLED DEMAND X 4.28 (58 X 4.28)		248.24		248.24
TOTAL XCEL LINE ITEM CHARGE				
RENEWABLE ENERGY STANDARD ADJ				
ALL OF THE ABOVE LINE ITEM CHARGES X 0.006				
SECONDARY GENERAL CHARGE (FIXED)	0.15			0.15

SECONDARY GENERAL CHARGE (KWHR)			0.33	0.33
GRSA CHARGE (FIXED)	0.02			0.02
GRSA CHARGE (KWHR)			0.04	0.04
GRSA CHARGE (DEMAND)		0.37		0.37
DEMAND CHARGE		2.92		2.92
AIR QUALITY IMPROVEMENT CHARGE			0.10	0.10
ELECTRIC COMMODITY ADJ			3.21	3.21
DEMAND SIDE MANGAGEMENT COST		0.14		0.14
PURCHASE CAPITAL ADJ		1.49		1.49
TOTAL XCEL LINE ITEM CHARGE COLUMN SUBTOTALS	28.34	826.02	617.26	

SALES TAX CHARGE

TOTAL FIXED COSTS X 5.5%	1.56			1.56
TOTAL VARIABLE DEMAND COSTS X 5.5%		45.43		45.43
TOTAL VARIABLE KWHR COSTS X 5.5%			33.95	33.95
TOTAL SALES TAX CHARGE	$ 29.90	$ 871.45	$ 651.21	

AVERAGE COST OF KWHRS

TOTAL VARIABLE COST OF KWHR / KWHR USED

$651.21 / 19040 KWHR = $ 0.0342

NOTE:

SOLAR GENERATED POWER WILL ONLY PROVIDE A SAVINGS FOR THE VARIABLE CHARGE OI ON THE ABOVE BILL. DEMAND WILL ONLY BE AFFECTED IN THE DAY TIME WHEN THE SYSTEI PRODUCING POWER. THIS WILL ACTUALLY LOWER THE DEMAND BY A FACTOR OF 1O BUT X THE DEMAND LOAD BASED ON THE MOST LOAD DRAWN IN A 24 HOUR DAY OVER THE NORM/ CYCLE OF 30 DAYS. DEMAND WILL STILL PEAK OUT AT NON SOLAR GENERATING TIMES SO A BENEFIT IN TOTAL COST SAVINGS FOR AN ELECTRICAL METER DURING THE YEAR.

ITEM TOTALS
$ 79.84
72.01
487.20
16.18
535.60
23.78
248.24

8.78

80.94

$ 1,552.56

F KWHR
M IS
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ANALYSIS OF COMBINING DEMAND COSTS WITH VARIABLE KWH COSTS FOR THE XCEL METER BILL SHOWN IN TABLE 2

KWH = KILOWATT HOUR

CALCULATION OF TOTAL SOLAR ENERGY SAVINGS (COMBINED DEMAND & KWH COSTS)

TOTAL CHARGES/MO DEMAND COSTS	$ 871.45
TOTAL CHARGES/MO KWH COSTS	651.21
TOTAL OF KWH & DEMAND COSTS	$ 1,522.66

USAGE/MO KWH (FROM XCEL BILL)	19040	
COST/KWH ($1522.66/19040 KWH)	$ 0.0800	(COMBINED DEMAND & KWH COST)

CALCULATION OF POWER SAVINGS PER MONTH	HRS/MO	KWH COST	SAVINGS PER MO
KWH PRODUCED/MO X COST/KWH CALCULATED ABOVE	1250	$ 0.0800	$ 100.00

NOTE: THIS IS BASED ON A PRODUCTION CAPACITY/YR OF 15000 KWH FROM XCEL DATA

CALCULATION OF TOTAL SOLAR ENERGY SAVINGS (SEPARATE DEMAND & KWH COSTS)

TOTAL CHARGES/MO DEMAND COSTS	$ 871.45
TOTAL CHARGES/MO KWH COSTS	$ 651.21

USAGE/MO KWH (FROM XCEL BILL)	19040	
COST/KWH ($651.20/19040 KWH)	$ 0.0342	(KWH COST ONLY)

CALCULATION OF POWER SAVINGS PER MONTH	HRS/MO	KWH COST	SAVINGS PER MO
KWH PRODUCED/MO X COST/KWH CALCULATED ABOVE	1250	$ 0.0342	$ 42.75

NOTE: THIS IS BASED ON A PRODUCTION CAPACITY/YR OF 15000 KWH FROM XCEL DATA

COMPARISON OF SAVINGS

PER MONTH SAVINGS WITH COMBINED DEMAND & KWH COSTS	$ 100.00
PER MONTH SAVINGS WITH SEPARTE DEMAND & KWH COSTS	42.75
ADDITIONAL SAVINGS PER MONTH	$ 57.25

ADDITIONAL SAVINGS PER YEAR (57.25 X 12)	$ 687.00
PLUS ORIGINAL SAVINGS PER YEAR (42.75 X 12)	513.00
TOTAL SAVINGS PER YEAR (ESTIMATED)	$ 1,200.00

NOTE: THIS AMOUNT OF SAVINGS/YR ASSUMES NEARLY CONSTANT USE OVER 12 MONTHS. IRRIGATION WELLS ARE ONLY ACTIVE 6 MONTHS OR LESS PER YEAR AND WOULD HAVE TO HAVE THE SAME VALUE PER KWH CREDITED TO THE METER BILL AS THE ACTIVE MONTHS OR AS AN ALTERNATIVE, XCEL SHOULD PERMIT THE BANKING OF THESE KWH UNTIL NEEDED IN THE NEXT IRRIGATION SEASON.