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Sulphur Springs Valley Electric

A Touchstone Energy® Cooperative



311 E. Wilcox, Sierra Vista AZ 85635

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ARIZONA CORPORATION COMMISSION
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March 1, 2011

Arizona Corporation Commission

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Brian Bozzo, Compliance Manager
Utilities Division
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007

Re: Compliance Filing of Sulphur Springs Valley Electric Cooperative, Inc. ("SSVEC")
Consolidated Docket Nos. E-01575A-08-0328 and E-01575A-09-0453
Commission Decision No. 71274 – C&I Energy Efficiency Improvement Loan Program

Dear Mr. Bozzo,

In Arizona Corporation Commission ("Commission") Decision No. 71274 dated, September 8, 2009, ("Decision") in the above-referenced consolidated dockets, SSVEC was granted a 16-month pilot loan program for Commercial and Industrial Customers. The Decision provided that:

Sulphur Springs Valley Electric Cooperative, Inc's Commercial and Industrial Energy Efficiency Improvement Loan program is approved as a pilot-program for a period of 16 months, and that following the 12th month of program operation, Sulphur Springs Valley Electric Cooperative, Inc. make a filing detailing its experience with the program and a recommendation regarding continuation of the program.¹

This program was approved as part of SSVEC's last rate case and was funded by the DSM adder approved in the Decision. The DSM adder is a per kWh charge so SSVEC delayed the startup of the program to allow funds to accumulate monthly to a level sufficient to fund the loans. We began talking to businesses in April 2010 looking for someone who would be willing to let us use them to work out the details of our internal processes before we began widespread advertising.

Many of the businesses we contacted expressed an interest but, due to the economy, were hesitant to make any capital improvements even with a zero interest loan, but indicated they would keep the program in mind for next year. In November 2010, the Greater Sierra Vista Chamber of Commerce decided that they would take advantage of our program with a capital improvement to the building they own in the form of a lighting upgrade and replacement of old inefficient HVAC units. SSVEC worked with the Chamber to review the proposals and verify the savings potential, and the Chamber then became our first project, which was funded in January 2011. The Chamber will send out a letter to all Chamber members outlining the success they had with the SSVEC program, which is good for advertising our program.

¹ Decision at page 47, lines 7-11.



SSVEC has also obtained a \$110,000 Small Business Energy Audit Grant that we are using to increase public energy awareness by offering detailed commercial audits. Information about the C&I zero interest program is included in the audit report to the business.

The following pages detail the first project and SSVEC's recommendations. If you have any questions, please do not hesitate to contact me.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "David Bane", with a stylized flourish extending from the end.

David Bane
Key Account Manager
520-515-3472

CC: Docket Control (15 copies)

C&I Energy Efficiency Zero Interest Loan Program first project

The most obvious place to improve energy savings was in the lighting of the building. The lighting was original with 2 and 4 lamp T12 lamps with magnetic ballasts.

Lighting Savings:

The customer replaced old T12 lamps with magnetic ballasts with T5 fixtures with electronic ballast. The project consisted of changing 120 interior and 8 exterior fixtures. The Chamber is open weekdays only so the monthly hours of operation is about 200. Similar projects for a business that is open 6 or 7 days a week with extended hours with have even higher savings.

Lighting saves on your energy bill in both the reduction of kWh (consumption) and in monthly demand (highest 15 load) since lighting is coincident with the monthly peak. The HVAC savings is calculated by taking the cooler operating ballast with the electronic ballast into consideration.

Improvements in efficiency by the increased quality of light are not measured in the analysis.

Monthly Savings Analysis					
kW Reduction		12.41	Direct Savings	\$	371.35
kWh Saved / Month	\$	282.95	HVAC Savings	\$	74.27
kW Demand Saved	\$	88.40	Total Savings	\$	445.62

Environmental Impact		
CO2 (1.844 lb. Per kWh)	5,943	pounds of CO2 emissions reduced each month
SO2 (.00342lb Per kWh)	11.0	pounds of SO2 emissions reduced each month
NOx (.0052 lb. per kWh)	16.8	pounds of NOx emissions reduced each month

Source: Arizona Electric Power Cooperative, 1993 & 1994 emissions compliance test results.

C&I Energy Efficiency Zero Interest Loan Program first project

HVAC replacement:

The Chamber had HVAC equipment that was over 25 years old, and the contractor estimated an effective SEER of 4-6. Using a third-party website provided energy savings estimates; based on the efficiency of the old equipment compared to the new, size of building, current rates, Heating Degree Days, and Cooling Degree Days, provided the following savings summary using the Heating and Cooling Degree Days for Sierra Vista (five year history and average).

Determination of Savings:

Heating and Cooling Degree Days is a way to estimate the cost of heating and cooling a building when it is not practical to survey the building to calculate the heat gain/loss. The table on the right shows the Heating Degree Days (HDD) and Cooling Degree Days (CDD) for Sierra Vista for the last 5 years and then calculates a 5-year average.

Yr	HDD	CDD
2006	1263	2775
2007	1481	2948
2008	1391	2624
2009	1313	3016
2010	1548	2819
Average	1399	2836

Third Party Model:

In the search for a model to use to estimate the savings, we found a website that had a worksheet that allowed SSVEC to input the efficiency of the units, size of the units, size of building, equipment type, local energy costs, and both the HDD and CDD to estimate the operating costs.

The following assumptions were made:

- 3,000 SqFt of building
- Electric Costs at 7.7 cents (kWh charge only)
- Natural Gas Costs at \$1.43 per therm (from SW Gas website)

Operational Savings estimate from HVACOPCOST.com

Old Equipment			Estimated Operating Cost	
Quantity	Tons	Est. SEER	Cooling	Heating
1	6	5	\$ 2,270.00	\$ 1,060.00
1	5	5	\$ 2,270.00	\$ 1,060.00
1	2	5	\$ 1,336.00	\$ 549.00
Replacements			Estimated Operating Cost	
Quantity	Tons	SEER	Cooling	Heating
1	5	13	\$ 857.00	\$ 938.00
1	5	13	\$ 857.00	\$ 938.00
1	3	13	\$ 514.00	\$ 493.00
Electric Savings =		\$ 3,648.00	kWh Savings= 47,377	
Gas Savings =		\$ 300.00	NG (therms) Savings= 210	
Annual Savings =		\$ 3,948.00		

If we look at the percentage of improvement, rather than the estimated costs, the Chamber could expect a 62% reduction in cooling costs and a 10-12% reduction in heating costs.

C&I Energy Efficiency Zero Interest Loan Program first project

Environmental Impacts:

The table on the right shows the estimated reduction in Emissions based only on the kWh consumption of the HVAC units.

Emissions Reductions		
CO2	87,362	lbs per year
SO2	162	lbs per year
Nox	247	lbs per year
Source: Arizona Electric Power Cooperative, 1993 & 1994 emissions compliance test results.		

Program Recommendations:

SSVEC requests that we be allowed to continue this program as is through December 31, 2011, and file with Staff a program update no later than April 1, 2012, with a request to continue, modify, or delete the program. It is our hope that the economy will improve and give our small businesses confidence to invest in capital improvements. No addition funding is requested at this time.

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