Utah Solar Incentive Program

2007 Annual Report

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Background

In Docket No. 06-035-21, Rocky Mountain Power ("RMP" or "the Company") outlined plans to introduce a Solar Photovoltaic program to gain market based information on the value of distributed solar resources to assist the Company in meeting peak demand requirements. To fund the program an annual revenue requirement adjustment of \$314,500 was included in the Company's initial application^{1 2}. The case was settled by stipulation and approved by the Commission without specific findings on individual issues. Pursuant to the stipulation, Rocky Mountain Power filed a request with the Utah Public Service Commission for approval of Schedule 107, the Solar Incentive Program on April 4, 2007

On May 2, 2007 the Commission issued a letter suspending the tariff and granting the Division's request for an extension to file its comments. In addition to the Division several parties or individuals provided comments on the proposed program. On July 13, 2007, Rocky Mountain Power submitted reply comments to respond to concerns or recommendations expressed by the parties. On August 3, 2007, the Commission approved Schedule 107 subject to the comments and conditions summarized below:

- Provide an annual report no later than March 1 of the following year which shall at a minimum contain information on completed projects, program expenditures and recommendations for the following year³.
- Include recommendations on appropriate cost effectiveness criteria for solar programs as required in Docket No. 07-035-T04.⁴

¹ Docket No. 06-035-21, Exhibit UP&L___(JTW-1) - Tab 4.14 Solar Photovoltaic Program - This adjustment reflects the estimated annual program costs associated with Pilot Solar Photovoltaic Utility Buy-Down Program that will be co-sponsored by Utah Clean Energy and Utah Power. Approval for this program will be filed under a separate application. This pilot Photo Voltaic project will gather important information on the viability of a solar program funded by participating customers, tax incentives and the Company buy-down. The project will provide technical information on the integration of distributed solar resources into the Utah Power system and demonstrate the ability of solar power to meet growing peak demand. It will also gauge customers' willingness to participate in this program and provide an investment that will both benefit themselves and the utility system. This pilot program has not yet been approved in the state of Utah. PacifiCorp's continued participation in this program is contingent upon the Commission's approval and the associated costs being included in the Company's revenue requirement.

² It should be noted that Utah Clean Energy is not a co-sponsor of the program and it is administered solely by Rocky Mountain Power.

³ As noted by DPU, this aspect was not met in the designated time frame.

• Identify data that will be collected and how it will be compiled to produce a useful report for evaluating program design and cost and benefits of a long term program. File this plan within 90 days.⁵

The costs of the Solar Incentive Program are included in Company operating expenses and are not funded from the surcharge revenues collected under Utah Schedule 193, Demand Side Management (DSM) Cost Adjustment.

Goals of the program

The pilot program is designed to gather market based information on the costs and customer participation in a program to integrate distributed solar resources into the Rocky Mountain Power system and the ability of solar power to reduce peak electricity demand. Goals of this program include:

- Assessment of the benefits
- Assessment of costs
- Program administration logistics
- Rate of consumer installation of photovoltaic systems in Utah.
- Provide experience in working collaboratively with the solar community.

Key program elements and design features

Key program elements and design features reflect the pilot nature of the program, especially the limited funding available. Customer eligibility is limited to customers receiving electric service from Rocky Mountain Power at the project site and they must comply with the requirements set forth in the net metering Utah Schedule 135. This requirement ensures that installations serve loads that would otherwise be served through the Company's electrical system.

⁴ Pursuant to Docket No. 07-035-T04, on April 27, 2009 Rocky Mountain Power filed its report on Utah Demand Side Management and Other Resources Benefit and Cost Analysis Guidelines and Recommendations.

⁵ Also, as noted by DPU, this aspect was not met in the designated time frame. The company would like to note that meaningful data has been collected for 2007 (and 2008) and is analyzed in the program performance section of this report.

To help allocate available funding to the maximum number of installations, incentives are provided for up to 3 kilowatts for residential customers, and 15 kilowatts for non-residential customers (based on rated AC output). Larger systems may be installed, but incentives are provided up to the limit only. Systems that are already installed are not eligible for incentives.

Since the pilot program has capped funds, it was determined that a publicized application acceptance date (the first day applications could be submitted) would be the most equitable way to receive applications and allocate funds. For the 2007 program, this date was September 10, 2007.

To ensure that available funding is available for viable projects and not committed to projects that don't get installed within a reasonable time, projects must be installed by an annual deadline, January 31, 2008 for the 2007 program⁶.

Installations must be performed by Utah licensed electrical contractor (S201, S202 or S215) and a list is provided on the program website. Installations also require that permits be obtained from the local authorities. These requirements ensure safe professional installations, system integrity and help develop electrical contractor and building official expertise.

To minimize administration costs surrounding equipment performance ratings and to leverage work done in other markets, the California Go Solar program list of inverter and module ratings developed in accordance with protocols set by the California Energy Commission (CEC) is used by the program as the list of qualifying equipment. This site is accessible through the program web site. To be eligible for incentives, system components must have the following warranty requirements; panels – twenty years, inverters – five years and installation labor – one year.

⁶ Since the 2007 program commenced in the fall and customers needed to install equipment during the winter, a few customers with approved applications were granted weather related extensions by the program administrator on a case by case basis.

2007 activity

2007 was the first year of the program and formal approval was received in August 2007. Selection of a third party program administrator and final program design were completed in 2007 contemporaneously with the program filing and Commission approval process.

The program administrator, Ecos Consulting was selected through a competitive process and a contract was signed in April 2007 to ensure services would be available shortly after Commission approval. Ecos also administers the Company's new homes program in Utah. To administer this program, they teamed with Larry Burton of Burton Consulting who has experience with the SolarGenerations program offered by NV Energy.

Final program design included development of the final program forms, marketing materials and web site completion. The program was also revised to include changes that occurred during the program filing process, such as the ownership allocation of Renewable Energy Credits (REC)'s⁷. The address for the Company's web site for this program is as

follows: http://www.rockymountainpower.net/Homepage/Homepage65672.html.

The site is the primary marketing vehicle and is designed to complement personal selling being done by the solar trade ally community. The site includes general information on how to identify and design appropriate solar applications, specific program requirements, lists of equipment distributors and licensed contractors, a complete list of forms and several ways to contract the program administrator for more information.

⁷ Ownership of RECs in this program is allocated between the customer and RMP in the same percentage as the RMP incentive is to total project costs, i.e., if RMP incentives offset 20% of the costs, RMP would own RECs amounting to 20% of the output of the system. RMP tracks generation output from information provided on the customer attestation certificates. The rules of the third party tracking entity utilized by RMP are new and requirements have been coming out recently. Under the third party tracking rules, RECs are allowed to be sold by one party only. Unless RMP claimed all the credits, RMP would not be able to sell the RECs. Since the output of numerous individual systems would have to be aggregated where the credits are accumulated until the each systems output reach the 1 MWH minimum REC threshold, the administrative costs of doing so would exceed the value of the RECs. RMP is not including these RECs in any third party data base or planning to use them as an offset to Utah rates during the duration of the pilot program. RMP recognizes that the program convention on RECs pre-dates the current net metering docket and will include approved changes appropriate for small projects on a going forward basis.

A short script was developed for Rocky Mountain Power's call center employees so incoming calls were efficiently re-directed to the program web site. Details of the program were provided to the Solar Working Group at their August 2007 meeting by the program administrator.

Summary of 2007 results

Information in the tables below summarizes expenditures by cost category, installed capacity by customer type eligible for incentives and application data for the 2007 program. Additional information regarding individual 2007 projects is available in the Appendix.

	kW	Incentives ⁸	Administration	Expenditures
Residential	54.055	\$108,112		
Non-residential	3.305	\$6,590		
Third party - total			\$26,013	
Utility - total			\$1,947 ⁹	
Total	57.360 ¹⁰	\$114,702	\$27,960	\$142,662

Table 1. 2007 Installed Capacity and Expenditures

⁸ Incentives based on \$2/watt differ from total incentives displayed here by \$20 total based on rounding of watts and incentive amounts.

⁹ Includes direct labor costs for program management, marketing, analysis. In 2007, Company did not perform additional site inspections beyond those performed by the program administrator. As a result utility labor does not include any site inspection costs. Costs for net meters and associated metering department time is not allocated to the program or reflected in these costs. For the 28 2007 installations, 26 were residential and the cost to upgrade the meter was \$125/site or \$3,250 in total. The two non-residential installations required a programming upgrade only with no additional incremental costs.

¹⁰ Four residential customers installed systems larger than the maximum size eligible for program incentives. Installed capacity beyond the program is an additional 6.927 kW. Total installed capacity for systems receiving program incentives is 64.287 kW.

Table 2. 2007 Applications

Received	43
Completed	28
Denied ¹¹	5
Decided to re-apply in 2008	7
Incomplete/withdrew	3

Key findings from 2007

The section below outlines key findings from the 2007 program and is designed to compare activity and results in relation to stated program goals provided earlier in this report. These findings help inform the recommendation for the next program year.

- 1. Installed system costs (assessment of costs goal)
 - a. Total reported customer costs were \$664,826 for 64.287 kW(ac) of installed capacity. This includes 6.927 kW beyond the amounts eligible for program incentives listed in Table 1.
 - b. Average cost (based on total installed capacity) was \$10.34/W(ac).
 Removing costs and capacity of the highest and lowest cost projects listed below results in an average cost of \$10.78/W(ac)
 - c. Highest system cost was \$22.24/W(ac)
 - d. Lowest system cost was \$5.43/W(ac)
 - e. Net meters required for 2007 installation cost of \$125/residential installation or \$3,250 for 26 installations. The two non-residential applications did not generate any additional net metering costs. Net metering costs are not included in customer or utility costs in Table 1.

¹¹ Equipment already installed was the primary reason for denying applications.

- 2. Trade allies (experience working with solar community goal)
 - a. Twelve contractors performed the 2007 installations.
 - b. Five contractors performed one installation each.
 - c. Two contractors performed two installations each.
 - d. Two contractors performed three installations each.
 - e. Two contractors performed four installations each.
 - f. One contractor performed five installations.
- 3. Customers (rate of consumer installations goal)
 - a. Participants were from thirteen unique cities
 - b. Participant count in the top four cities are: Salt Lake City (8), Moab (6), Cedar City (3) and Park City (2). These top four cities accounted for 19 total participants.
 - c. The other nine cities had one participant each.
 - d. Customers were slow to return Attestation certificates
- 4. Marketing (program administration logistics & solar community goals)
 - a. Primarily personal selling to end use customers by proactive solar trade allies.
 - b. Applications are being completed and submitted by the trade allies as part of the selling process for the end use customers.
 - c. Information on the solar incentive program was sent to the Utah Solar Working group list (over 300 members) and Utah Clean Energy and Utah Solar Energy Association member lists.
- 5. Equipment availability (program administration logistics & solar community goals)
 - a. Customers and trade allies reported equipment shortages and attendant schedule impacts during 2007.
- 6. Allocation of program incentives (program administration goal)

- a. The relatively short time between the date applications were first accepted, September 10, 2007 and the installation deadline for the first year of the program January 31, 2008 precluded all the incentive from being allocated to projects.
- b. The shortfall in allocated incentives for 2007 was the most prevalent in the non-residential customer group.

In summary, findings from 2007 indicate costs per installed watt were approximately the same as what was originally estimated. Contractor participation was aligned with experience in other specialty trades with a few contractors performing the majority of the installations. Marketing was as forecast with contractor personal selling and including the program application process as part of the sales process. The short duration between the program approval and the installation deadline led to a shortage of projects that could be approved and built within the available time frame.

Recommendations for the next year

- Given the late program start date, the "unused 2007 kW allocation" (2.945 kW for residential installations and 46.695 kW for non-residential applications) were added to the 2008 program. To ensure consistent marketing messages surrounding annual kW allocations, the addition will occur as part of the 2008 tracking by the program administrator and will not be included as a specific roll-over amount since it is unlikely to occur in future years¹².
- 2. Program administrator or Company or joint communication reminder(s) to customers with installed projects to provide completed Attestation Forms.
- 3. Communication to solar trade ally community on importance of generation data from actual installations and that missing, incomplete or inaccurate Attestation forms are a barrier to complete assessment of program effectiveness.

¹² Since pilot program revenue requirements were established based on five full years of program operation, the re-allocation decision was made to compensate for the short 2007 year. This is expected to be the case for 2007 only.

Program data being collected

Extensive data is currently being currently being collected on customer installations applying for and receiving program incentives. In addition to administering the program, this data will be used in the assessment of program effectiveness, including any recommendations for changes beyond the pilot period. Table 3 is not a list of all data being recorded, but is intended to illustrate that each participant contributes specific data on costs, equipment performance and trade ally activity in support of the program goals.

Data	Source		
Customer type (residential or non-residential)	Application ¹³		
Customer location	Application		
Meter/site/account information	Application & CSS ¹⁴		
New construction or retrofit	Application		
Shading: source and % loss	Site Inspection ¹⁵		
Electrical contractor	Application		
PV module: manufacturer, model, warranty, CEC rating, quantity,	Application		
location, tilt angle.			
Inverter: manufacturer, model, warranty, voltage, ratings (watts),	Application		
CEC efficiency, quantity			
Estimated watt (ac) output	Application		
Estimated annual energy production	Application		
Actual energy output – monthly & annual	Attestation ¹⁶		
Site sketch (includes orientation)	Application		
Installed cost estimate	Application		
Final installed costs	Site Inspection		
Project photos	Site inspection		

Table 3. Key data currently being collected

The company recognizes that accurate assessment of installation output is essential to assessing performance of both equipment and the program as a whole. As noted in the Recommendations section above, customers have been slow to return the Attestation certificates and this data provides output on a monthly and annual basis, not on an hourly

¹³ Photovoltaic Incentive Application Form

¹⁴ PacifiCorp Customer Service System

¹⁵ Site Inspection Form (used for both pre and post installation)

¹⁶ Non-Energy Attributes Certification and Attestation Form

basis. To better estimate the contribution of the installed systems on Utah's peak load without the expenses of hourly metering on installations the first year, the Company retained the a third party consultant to input the characteristics of the 2007 installed systems (contained in the detail in Appendix One) into the National Renewable Energy Laboratory (NREL) PV Watts calculator available at

http://rredc.nrel.gov/solar/codes_algs/PVWATTS/version1/.

Program performance reporting elements and proposed format

This section describes how these data elements are used in program performance reporting while maintaining a balance between pilot funding and the approved program design deploys the majority of the funds to customer incentives. Program performance reporting for this program will focus collection and analysis of:

- Actual costs (both total customer capital cost and utility cost) for photovoltaic installations.
- Characteristics (size, configuration, new construction, retrofit, etc.) of installation sites.
- Installed system performance/output.
- Ability of solar generation to meet peak load demands.
- Key findings from program operation and solar trade allies.
- Calculation of benefits using economic tests typically applied to renewable resources and/or those agreed to in the cost effectiveness analysis filed by the Company on April 27, 2009.¹⁷ While review of the report is underway, the

¹⁷ Pursuant to Docket No. 07-035-T04 Rocky Mountain Power filed its report on Utah Demand Side Management and Other Resources Benefit and Cost Analysis Guidelines and Recommendations

current analysis will provide a) the levelized cost of energy (LCOE) ¹⁸ and, b) standard economic tests from the California Standard Practices Manual. Both results will be compared to the values from the Integrated Resources Plan. This analysis may be replaced a alternate analysis in subsequent reports

 Table 4. Levelized cost of Energy¹⁹

Customer Cost	\$664,826
Incentives	\$114,702
Administration	\$27,960
Meters	\$3,250
Total Annual Generation (MWh)	101.395
Levelized Total Cost (\$/MWh)	\$594.37
Levelized Utility Cost (\$/MWh)	\$124.60
2007 IRP 49% Load Factor Decrement Levelized Cost (\$/MWh)	\$81.57

Table 5. Results for standard ed	conomic tests
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All Measures	AC: IRP 49% LF Decrement				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.5944	\$696,036	\$129,652	(\$566,384)	0.186
Total Resource Cost Test (TRC) No Adder	0.5944	\$696,036	\$117,865	(\$578,171)	0.169
Utility Cost Test (UCT)	0.1246	\$145,912	\$117,865	(\$28,047)	0.808
Rate Impact Test (RIM)		\$154,328	\$117,865	(\$36,463)	0.764
Participant Cost Test (PCT)		\$550,124	\$130,556	(\$419,568)	0.237
Lifecycle Revenue Impacts (\$/kWh)				\$0.000000475	

¹⁸ LCOE is consistent with Company potential study analysis of photovoltaic resources

¹⁹ Levelized at 7.1% discount rate over 25 year estimated life.

The ability of solar resources to meet peak demand in Utah is illustrated in the following table. The shape of the generation output is derived from actual installation data entered into the NREL calculator as described above. The power demand data is from actual company sales for 2007. The day utilized for the comparison was selected as the day with the highest load from the hourly 2007 sales data. The comparison between the two is provided in the graph below.



Figure 1. Peak Day Generation and Load Profile (July 30, 2007)

This analysis indicates the solar generation resources deliver peak output between 1-2 PM and the company system peaks approximately two hours later. Solar resources, while not strictly one hundred percent coincident with system peaks do contribute energy during the high load and high energy cost hours of summer days. Hourly information

used in providing this illustration as well as for each hour of the year is being stored electronically as supporting documentation for the 2007 program.

Subsequent annual reports for the duration of the pilot program will include a program performance section which will help inform a timely set of recommendations sufficiently in advance of the end of the pilot. The Company recognizes that a cumulative program look will be useful for the end of the pilot analysis and will strive to include a cumulative analysis in addition to analysis for the annual period.

In conclusion the company acknowledges the comments regarding the scope and timeliness of this report and believes the revised draft report provided here is an effective balance between analysis effort and available budget. A report on the 2008 program will be prepared following the same format and incorporating the same data elements utilized for this report.

Appendix- 2007 project detail

Project ID	Status	City	State	Zip	Incentive Amount	Total system size (kW)	Applied Residential Installation (kW)	Applied Commercial Installation (kW)	Total System Cost (\$)	\$/(kW)	\$/W
709100004	Completed	Park City	UT	84098	\$4,686.00	2.342	2.342		\$21,551	\$9,201.96	\$9.20
709100007	Completed	SLC	UT	84103	\$4,490.00	2.245	2.245		\$19,826	\$8,831.29	\$8.83
709100014	Completed	SLC	UT	84103	\$4,256.00	2.128	2.128		\$17,481	\$8,214.76	\$8.21
709100020	Completed	Midvale	UT	84047	\$3,854.00	1.937		1.937	\$22,000	\$11,357.77	\$11.36
709101235	Completed	Eden	UT	84310	\$3,420.00	1.711	1.711		\$38,048	\$22,237.10	\$22.24
709101535	Denied	SLC	UT	84101	<i>\$0,120,000</i>		1011		<i>\$00,010</i>	<i><i><i>q</i>=<i>y</i>=<i>0110</i></i></i>	<i>Q</i>
709101537	Re-apply 2008	Eden	UT	84310							
709101559	Re-apply 2008	West Valley	UT	84121							
709111644	Completed	Moab	UT	84532	\$2,736.00	1.368		1.368	\$13,659	\$9,984.36	\$9.98
709111717	Re-apply 2008	Moab	UT	84532							
709120840	Completed	Cedar City	UT	84720	\$5,760.00	2.880	2.880		\$25,281	\$8,778.19	\$8.78
709120922	Completed	SLC	UT	84103	\$6,000.00	5.093	3.000		\$53,713	\$10,546.37	\$10.55
709121301	Completed	Rockville	UT	84763	\$5,100.00	2.550	2.550		\$24,573	\$9,636.44	\$9.64
709121615	Completed	Moab	UT	84532	\$2,736.00	1.368	1.368		\$12,235	\$8,943.65	\$8.94
709121616	Incomplete/withdrew	Moab	UT	84532					,		
709131414	Completed	SLC	UT	84102	\$5,242.00	2.621	2.621		\$22,537	\$8,598.77	\$8.60
709131630	Completed	SLC	UT	84103	\$5,532.80	2.766	2.766		\$35,498	\$12,831.96	\$12.83
709141024	Completed	Promontory	UT	84098	\$3,840.00	1.920	1.920		\$21,051	\$10,964.06	\$10.96
709141024	Re-apply 2008	Soldier Summit	UT	84092							
709141126	Re-apply 2008	SLC	UT	84106							
709141126	Re-apply 2008	SLC	UT	84106							
709141148	Completed	SLC	UT	84106	\$5,806.40	2.903	2.903		\$24,936	\$8,589.70	\$8.59
709151533	Completed	Moab	UT	84532	\$2,736.00	1.368	1.368		\$12,247	\$8,952.54	\$8.95

Project ID	System Orientation	System Tilt Angle (Degree,°)	Module Manufacturer	Module Model	Module Quantity	Module CEC Rated Watts Output	Inverter Manufacturer	Inverter Model	Inverter CEC Weighted Efficiency %
709100004	S-SW	22.6	Kyocera	KC175GT	16	154.9	Xantrex	GT3.3-NA-DS-240	94.5
709100007	S	adjustable	Evergreen	ES 190	14	168.8	Xantrex	GT3.3-NA-DS-240	94.5
709100014	S	29-51	Sanyo	HIP-200-BA3	12	188.7	Xantrex	XW 4024	89.0
709100020	S	18	Evergreen	ES 190	12	169.0	Xantrex	GT2.8	93.5
709101235	S	adjustable	Sanyo	HIP-200-BA5	10	188.3	Outback	GFX 3648	91.0
709101535									
709101537									
709101559									
709111644	S	38	Evergreen	ES 180 RL	8	180.0	SMA	SWR 1800U	91.5
709111717									
709120840	S	66	Kaneka	GSA 211 or GSA 60	60	60.0	SMA	SB3800U	94.5
709120922	S-SW	30	Mitsubishi	PV- MF125UE4N	48	111.1	Sunny Boy	6000 US	95.5
709121301	S	adjustable	Solar World	SW 165 mono	12	149.1	Fronius	IG 4000	94.0
709121615	S-SW	38	Evergreen	ES 180 L	8	180.0	SMA	1800 U	91.5
709121616									
709131414	W	25	Kyocera	KC 175 GT	18	154.9	Fronius	IG 3000	94.0
709131630	S	30	Evergreen	ES 190	16	190.0	Outback	GFX 3648	91.0
709141024	S	22	BP	175	12	186.0	Power One	3600	94.5
709141024									
709141126									
709141126									
709141148	S	30	Evergreen	ES 190	16	190.0	SMA	SB 3000 US	95.5
709151533	S	48	Evergreen	ES 180 L	8	180.0	SMA	1800 U	91.5

Project ID	Status	City	State	Zip	Incentive Amount	Total system size (kW)	Applied Residential Installation (kW)	Applied Commercial Installation (kW)	Total System Cost (\$)	\$/(kW)	\$/W
709161526	Completed	Moab	UT	84532	\$2,736.00	1.368	1.368		\$12,066	\$8,819.96	\$8.82
709170000	Re-apply 2008	South Jordan	UT	84095							
709181056	Denied	Ivins	UT	84738							
709181259	Completed	Moab	UT	84532	\$6,000.00	3.492	3.000		\$18,973	\$5,433.28	\$5.43
709181306	Completed	SLC	UT	84121	\$2,856.00	1.428	1.428		\$15,100	\$10,574.23	\$10.57
709190956	Completed	Moab	UT	84532	\$3,300.00	1.650	1.650		\$12,211	\$7,400.42	\$7.40
710151559	Completed	Ivins	UT	84738	\$2,293.20	1.147	1.147		\$10,000	\$8,718.40	\$8.72
710181244	Completed	Paradise	UT	84328	\$4,060.80	2.030	2.030		\$23,814	\$11,730.89	\$11.73
710221455	Denied	Ivins	UT	84738							
710291431	Completed	Cedar City	UT	84720	\$3,400.00	1.700	1.700		\$18,071	\$10,629.97	\$10.63
710291633	Denied	Orem	UT	84058							
711231501	Incomplete/withdrew	SLC	UT	84105							
711251337	Incomplete/withdrew	Moab	UT	84532							
711270820	Completed	SLC	UT	84109	\$3,460.00	1.730	1.730		\$14,910	\$8,618.50	\$8.62
711280918	Denied	Midvale	UT	84047							
711281423	Completed	Milford	UT	84751	\$1,672.80	0.836	0.836		\$11,865	\$14,186.24	\$14.19
712022312	Completed	Park City	UT	84098	\$6,000.00	5.933	3.000		\$57,319	\$9,661.45	\$9.66
712050836	Completed	Cedar City	UT	84720	\$1,682.00	0.841	0.841		\$11,865	\$14,108.63	\$14.11
712051324	Completed	Highland	UT	84003	\$6,000.00	4.408	3.000		\$38,614	\$8,759.87	\$8.76
712141036	Completed	Springdale	UT	84767	\$5,046.00	2.523	2.523		\$55,383	\$21,951.16	\$21.95
Totals					\$114,702.00	64.287	54.055	3.305	\$664,826	\$10,341.60	\$10.34
						6.927				Min	\$5.43
						additional capacity	installed			Max	\$22.24
									Average without min and max		\$10.78

Project ID	System Orientation	System Tilt Angle (Degree,°)	Module Manufacturer	Module Model	Module Quantity	Module CEC Rated Watts Output	Inverter Manufacturer	Inverter Model	Inverter CEC Weighted Efficiency %
709161526	Е	23	Evergreen	ES 180 L	8	180.0	SMA	1800 U	91.5
709170000									
709181056									
709181259	S	25	Evergreen	ES 180 L	20	180.0	SMA	3800 U	94.5
709181306	S	25	Evergreen	ES 190 RL	9	168.8	Xantrex	GT2.8-NA-240	94.0
709190956	S	39	Evergreen	ES 180 L	8	180.0	SMA	1800 U	91.5
710151559	S	37	Kyocera	GT 130	8	180.0	SMA	2100 U	93.0
710181244	S	tracker	Mitsubishi	PV-MF 180UD4	12	159.0	Fronius	IG 3000	94.0
710221455									
710291431	S	30	Solar World	SW 165 mono	12	149.1	Fronius	IG 3000	94.0
710291633									
711231501									
711251337									
711270820		45	Solar Fun	SF-190-27- M200	10	173.0	Xantrex	GT2.8-240	94.0
711280918									
711281423	S	18	Solar World	SW 165 mono	6	149.1	Fronius	IG 2000	93.5
712022312	S	55-25 adjusted seasonally	Conergy	S 175 MU	40	154.5	Sunny Boy	SB 4000 US	96.0
712050836	S	28	Solar World	SW 165 mono	6	149.1	Fronius	IG 3000	94.0
712051324	S	35	BP Solar	SX 3195	28	173.0	Outback	GVFX 3648	91.0
712141036	S	28	Solar World	SW 165 mono	18	149.1	Fronius	IG 4000	94.0