



Utah Solar Incentive Program

2011 Annual Report

Table of Contents

Executive Summary	3
Goals of the Program	3
Key Dates, Data and Activities for 2011 Program	3
Summary of 2011 Program Results	4
Key Findings from 2011	4
Changes Incorporated in Program Year 2012.....	7
Cost Effectiveness Analysis for Program Year 2011	8
Appendix 1 - 2011 Program Project Detail.....	11

List of Tables

Table 1. 2011 Program Installed Capacity and Expenditures.....	4
Table 2. 2011 Program Applications	4
Table 3. Levelized cost of Energy	8
Table 4. Results for Standard Economic Tests	8
Table 5. 2011 Program Residential Participants.....	12
Table 6. 2011 Program Residential – Withdrawn and Waiting List Participants.....	14
Table 7. 2011 Program Non-Residential Participants.....	18
Table 8. 2011 Program Non-Residential – Withdrawn and Waiting List Participants.....	19
Figure 1. Utah PV Generation and System Load Profile (August 23, 2011).....	9
Figure 2. Utah PV Generation and System Load Profile (August 23, 2011).....	10
Figure 3 Utah PV Generation and System Load Profile (August 3, 2011).....	10

Executive Summary

In Docket No. 06-035-21, Rocky Mountain Power (“Company”) outlined plans to introduce a Solar Photovoltaic program intended to gain market based information on the value of distributed solar resources to assist the Company in meeting peak demand requirements. On April 4, 2007, Rocky Mountain Power filed Tariff Advice No. 07-14 with the Public Service Commission of Utah (“Commission”) requesting approval to implement a Solar Incentive Pilot program (“Program”), which was approved by the Commission on August 3, 2007.¹ In the order approving the Program, the Commission directed the Company to provide annual reports on the Program containing information about completed projects, Program expenditures and recommendations for future Program years. This report is provided pursuant to the Commission’s direction and presents information on the Program, which is administered through Schedule 107, for the 2011 Program year.

Goals of the Program

The intent of this Program is to gather market based information on the viability of a solar incentive program in Utah funded by the Company. At the time of implementation in 2007, it was expected that the Program would provide technical information on the integration of distributed solar resources into the Rocky Mountain Power system and provide information on the ability of solar power to meet growing peak demand. It was also expected the Program would provide a useful gauge of customers’ willingness to participate in a solar incentive program. In summary, the goals of the Program are to:

- Provide an assessment of the benefits of solar photovoltaic systems in Utah.
- Provide an assessment of the costs of solar photovoltaic systems in Utah.
- Gain experience on Program administration logistics
- Acquire information on customer acceptance of solar photovoltaic systems in Utah.
- Provide experience in working collaboratively with the solar community.

Key Dates, Data and Activities for 2011 Program

- Application acceptance date (the first day applications could be submitted) was March 24, 2011.
- Program installation completion date (the day projects had to be complete) for 2011 was December 31, 2011.
- Capacity carried forward: 15.033 kW of residential capacity and 8.398 kW of non-residential capacity was carried over from 2010 to the 2011 Program.
- 2011 Program capacity: including the carryover from 2010, the combined capacity available totaled 72.033 kW for residential and 58.398 kW for non-residential projects.
- The 2011 Program also employed a waiting list. Applicants on this list were eligible to receive 2011 incentives if an approved applicant withdrew or cancelled their project. The current year waiting list does not function as a pre-reservation for the next Program year allocation.
- Nine customers notified the Program administrator during 2011 they were not able to complete their projects. Individuals on the waiting list were offered the available capacity

¹ Refer to Docket No. 07-035-T14.

with the understanding they would be required to meet the Program installation deadlines. As a result of project cancellations, 7.443 kW for residential and 3.817 kW non-residential were carried over from 2011 to the 2012 Program allocation.

- On February 10, 2011, the Commission, in Docket No. 07-035-T14, issued an order setting the Program \$/watt incentive to \$1.55; the incentive had been previously been set at \$2.00/watt. The reduction in incentive was in response to declining costs of solar photovoltaic installations.

Summary of 2011 Program Results

Information in the tables below summarizes expenditures by cost category, installed capacity by customer type and application data for the 2011 Program. Additional information on individual 2011 projects is available in Appendix 1.

Table 1. 2011 Program Installed Capacity and Expenditures

	Installed kW ²	Incentivized kW	Incentives	Administration	Expenditures
Residential	79.463	64.590	\$100,114.83		\$100,114.83
Non-residential	76.366	54.581	\$84,599.87		\$84,599.87
Third party management				\$52,010.13	\$52,010.13
Utility administration & evaluation				\$11,717.39	\$11,717.39
Metering				\$28,994.97	\$28,994.97
Total	155.829	119.171	\$184,714.70	\$92,722.49	\$277,437.19

Table 2. 2011 Program Applications

Received	106
Approved and completed	29
Dropped	9
Waiting list	68

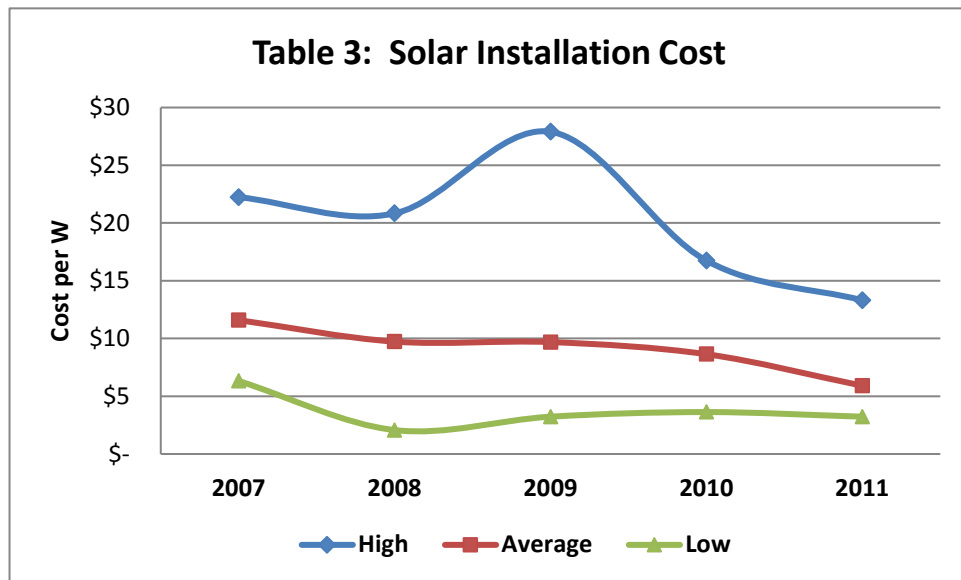
Key Findings from 2011

This section outlines key findings from the 2011 Program and is designed to compare 2011 Program activity and results in relation to stated Program goals.

1. Installed System Costs - associated Program goal: assessment of Program costs
 - a. Total reported participants cost were \$919,601. Customers received incentives for 119.171 kW(ac), but fifteen participants installed large systems resulting in 36.658 kW(ac) of additional capacity. A total of 155.829 kW was installed in Program year 2011 as listed in Appendix 1.
 - b. Average installed costs before any incentives were \$5.90/W(ac).

² Fifteen customers (twelve residential and three non-residential) installed systems larger than the maximum size eligible for program incentives. Note that the Company did not issue incentives for capacity installed beyond the program limits

- c. Highest system cost was \$13.31/W(ac). This system was split among multiple buildings and roof surfaces necessitating some redundant equipment and higher installation costs.
- d. Lowest system cost was \$3.23/W(ac). The participant only paid for materials for this installation.
- e. 2011 average system cost decreased significantly from 2010, which was \$8.64/W(ac).
- f. The highest system cost in 2011 was \$13.31/W(ac) compared to \$16.74 /W(ac) in 2010, or 20 percent less than the highest system cost in 2010.
- g. The lowest system cost in 2011 was \$3.23/W(ac) compared to \$3.63/W(ac) in 2010, or 11 percent less than the lowest system cost in 2010. Table 3 below provides a trend line across Program years for the high, low and average installation costs.



- h. In the 2011 Program year, the Company installed 15 minute interval production meters for all participants in the Program. The production meters and the required communication equipment cost \$1,000 per installation or \$28,995 in total for 29 installations. For net meters, the per-meter cost for 2011 was the same as 2010. Net metering costs are not included in customer or utility costs shown in Table 1.

- 2. Trade Allies – associated Program goal: gain experience working with solar community
 - a. Sixteen contractors performed the 2011 Program installations, a reduction of five compared to 2010.
 - b. Eleven contractors performed one installation each.
 - c. Three contractors performed two installations each.
 - d. One contractor performed four installations.
 - e. One contractor performed five installations.
 - f. Two systems were self-installed.

3. Customers - associated Program goal: customer acceptance of solar in Utah
 - a. Participants were from fifteen unique cities, a reduction from 21 in 2010.
 - b. The top cities for participation: Salt Lake City (12), and 2 each in Park City, Sandy, and West Valley.

4. Marketing - associated Program goals: Program administration logistics & experience in working with solar community
 - a. Similar to the prior Program years, proactive trade allies are using personal selling to market the Program to end use customers. The trade ally activity was sufficient to prevent the need for Company based marketing of the Program.
 - b. Applications are being completed and submitted by the trade allies. This is being done as service for customers and is similar to prior Program years.

5. Equipment Availability - associated Program goals: Program administration logistics & experience in working with solar community. One participant switched to other equipment due to material shortages.

6. Allocation of Program Incentives - associated Program goals: Program administration logistics
 - a. With nine months for approved projects to be constructed, changes in customer's available funding throughout the year precluded all of the available capacity and incentives from being fully utilized in the prescribed time frames.
 - b. The waiting list helped maximize yearly installation capacity and compensated for project cancellations, but lead times on waiting list projects and timing of canceled projects both pose challenges to fully allocating annual Program incentives.

7. Assessment of Benefits Goal

A key goal of the Program is to assess the benefits of solar photovoltaic installations to Rocky Mountain Power's system, especially during periods of peak demand. Accurate measurements of the output of installed solar photovoltaic systems are an integral part of that effort. Prior Program annual reports have outlined the challenges of having customers provide output data from their system inverters on a regular basis and submit that information to the Company via Attestation certificates. Also, in prior annual reports, the Company described an alternate approach to estimating solar photovoltaic system output on an hourly basis through the use of the National Renewable Energy Laboratory ("NREL") PV Watts calculator. Estimated output from each installation was calculated using the PV Watts calculator and a graphical representation of the contribution of the Program installations to the Utah peak was provided.

All 2011 Program participants were required to install generation meter sockets and the Company installed 15 minute interval production meters at all sites associated with the Program. Interval data from this pool of installed meters will be used to correlate/validate PV Watts data for systems. The actual data will also be used in place of PV Watts estimates where available.

In summary, findings from the 2011 Program indicate average costs per installed watt were less than 2010 Program experience; overall cost per watt installation costs dropped thirty two percent from 2010 results. The number of contractors participating in the Program decreased by five in 2011. Marketing continues to be done with contractors utilizing personal selling and including the Program application process as part of their sales process.

Changes Incorporated in Program Year 2012

On December 21, 2011, the Commission issued an order in Docket No. 11-035-104 extending the Program beyond its initial five year term for an additional year. The Program incentive remains at \$1.55/watt and the Program kW capacity was increased to 214 kW. On January 31, 2012, Rocky Mountain Power submitted a letter to the Commission listing some modifications that would be incorporated in the 2012 Program year. These Program changes were designed to minimize the administrative expense of the Program and improve the customer experience.

1. Carry over the “unused 2011 kW allocation” (6.475 kW for residential installations and 3.817 kW for non-residential applications) to the 2012 Program. To ensure consistent marketing messages surrounding annual kW allocations, the addition will occur as part of the 2011 tracking by the Program administrator and will not be included as a specific roll-over amount.
2. **Metering Changes:** During discussions concerning extension of the Program into 2012, there was significant dialogue regarding the cost of installing 15 minute interval meters at all Program sites. In response to these discussions, in the 2012 Program year, participants will still be required to install a production meter base, but instead of installing a 15 minute interval meter, Rocky Mountain Power will install a standard radio frequency meter. This will not provide the same granularity of production data, but will still provide overall production information for participants in the Program. This will reduce the administrative costs of Program and allow for the gathering of valuable information while remaining within the approved budget.
3. **Enrollment Process:** The capacity enrollment process changes from a pure first come, first served process to a lottery system. Historically, the Program has been fully subscribed and had a sufficient waiting list within minutes of opening the enrollment window. This has caused customer dissatisfaction in the Program and other programs with a similar enrollment model as technical glitches and busy phone lines thwarted customer’s attempts to participate in the Program. In response to customer concerns, the Company implemented a modified enrollment process for the 2012 Program. In the modified process, the enrollment window was opened for 14 days to allow all interested parties sufficient time to submit reservation applications. Queue positions for all applicants were determined through a randomization process. Each applicant was then notified if they were accepted into the Program or were provided their position on the waiting list.
4. **Inspection Process Changes:** In order to lower administrative cost, Rocky Mountain Power will modify the site inspection process. Previously, the Program administrator did two site inspections, one at the time of the reservation and a second prior to payment of the incentive to ensure that the project was installed as represented in the application. Projects will now be inspected only after installation before the incentive payment is issued. The Company believes that the information gathered through the application and

the knowledge of participating contractors of the requirements of the Program make this initial inspection redundant, and as such, not cost effective. For issues that cannot be identified through the application process, such as unanticipated shading, reductions to the incentive can be made after the post-installation inspection if expected production data provided in the application is out of alignment with expected system production based on the post-installation inspection.

Cost Effectiveness Analysis for Program Year 2011

Similar to prior Program years and in support of the assessment of benefits goal, the Company has retained a third party consultant to conduct a cost effectiveness analysis of the Program. The consultant used actual production data when available and estimated hourly output of the solar photovoltaic systems using the National Renewable Energy Laboratory (NREL) PV Watts calculator when needed. The NREL PV Watts tool is available at http://rredc.nrel.gov/solar/codes_algs/PVWATTS/version1/. Information on the Program installed systems provided in Appendix 1 is an input to this calculation. In addition, the levelized cost of energy and the results of the standard economic tests are provided. This is similar to the approach utilized for prior Program years. A memo summarizing the economic assessment conducted by the third party consultant is provided as Attachment A to this report.

Table 3. Levelized cost of Energy³

Cost and Benefit Inputs	
Customer Cost (for capacity receiving incentives)	\$919,601
Incentives	\$185,076
Administration	\$63,728
Meters (Net meters, gen meters and telecommunications costs)	\$28,995
Total Annual Generation (MWh)	351
Results	
Levelized Total Cost (\$/MWh)	\$237
Levelized Utility Cost (\$/MWh)	\$65

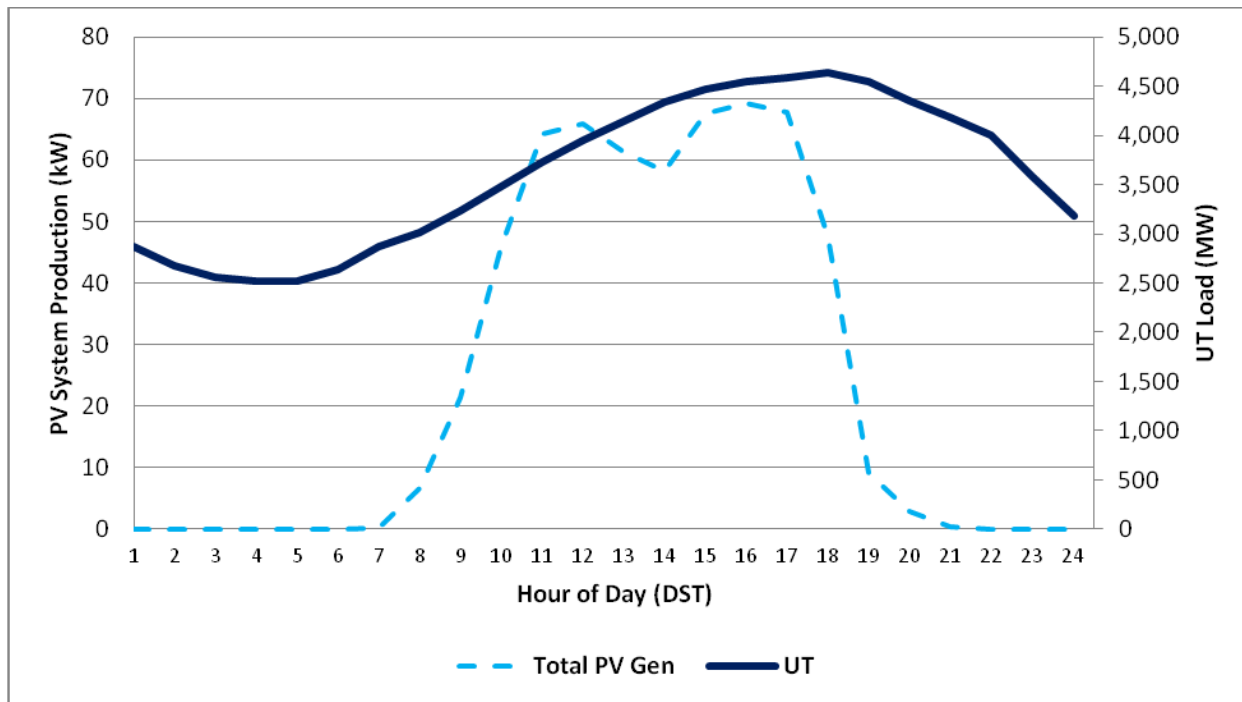
Table 4. Results for Standard Economic Tests

	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/ Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$0.24	\$1,012,324	\$397,141	-\$615,183	0.39
Total Resource Cost Test (TRC) No Adder	\$0.24	\$1,012,324	\$361,037	-\$651,286	0.36
Utility Cost Test (UCT)	\$0.06	\$277,798	\$361,037	\$83,239	1.30
Rate Impact Test (RIM)		\$722,760	\$361,037	-\$361,723	0.50
Participant Cost Test (PCT)		\$919,601	\$630,037	-\$289,564	0.69
Lifecycle Revenue Impacts (\$/kWh)				\$0.00000028	

³ Levelized at 7.17% discount rate over 30 year estimated life.

Figure 1 illustrates the ability of solar resources to meet peak demand in Utah. The shape of the generation output is derived from actual metered data.⁴ Figure 1 shows the load curve for Rocky Mountain Power’s Utah service territory on August 23, 2011, the system peak day in 2011, and is compared to the total output of the solar photovoltaic systems on the same day.

Figure 1. Utah PV Generation and System Load Profile (August 23, 2011)



This analysis indicates that on this day, the solar generation resources delivered peak output from approximately 11:00 am to Noon and again from 3:00 pm to 5:00 pm.⁵ While the system load peaks later in the day around 6 p.m. Solar resources, while not coincident with system peaks do contribute a percentage of energy during the higher load and energy cost hours of summer days, as shown in Figure 1 above.

The majority of customers orient panels facing south to maximize energy production. South facing panels tend to produce more kilowatt-hours than panels oriented in other directions. Yet, south facing panels produce less energy during the typical evening system peak hour. In comparison, a southwest facing panel is more likely to generate more energy during the evening system peak hour.

The figures below show the level of variability in solar generation of nine Program participants with interval meters on August 23, 2011 and August 3, 2011. These nine installations, located in communities such as Salt Lake City, Park City, and Moab, are primarily oriented to the south or

⁴ Information on this calculation can be found in Attachment A.

⁵ This wide peak is due to systems being installed at different orientations and tilt, and therefore providing peak output during different hours of the day. Of the 28 installed systems 10 were installed with orientations that differed from true south.

south-southwest. Differing production levels often reflect specific orientation, pitch of the panel, tracking capability, shading from nearby buildings or trees, and passing clouds.

Figure 2. Utah PV Generation and System Load Profile (August 23, 2011)

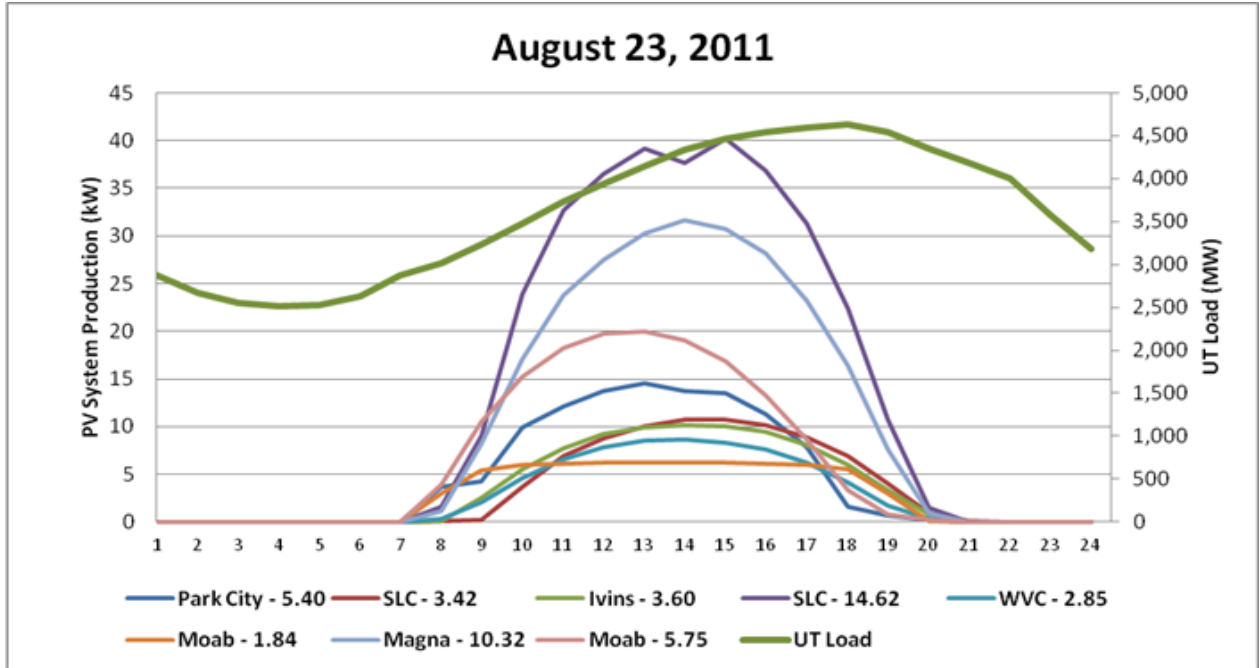
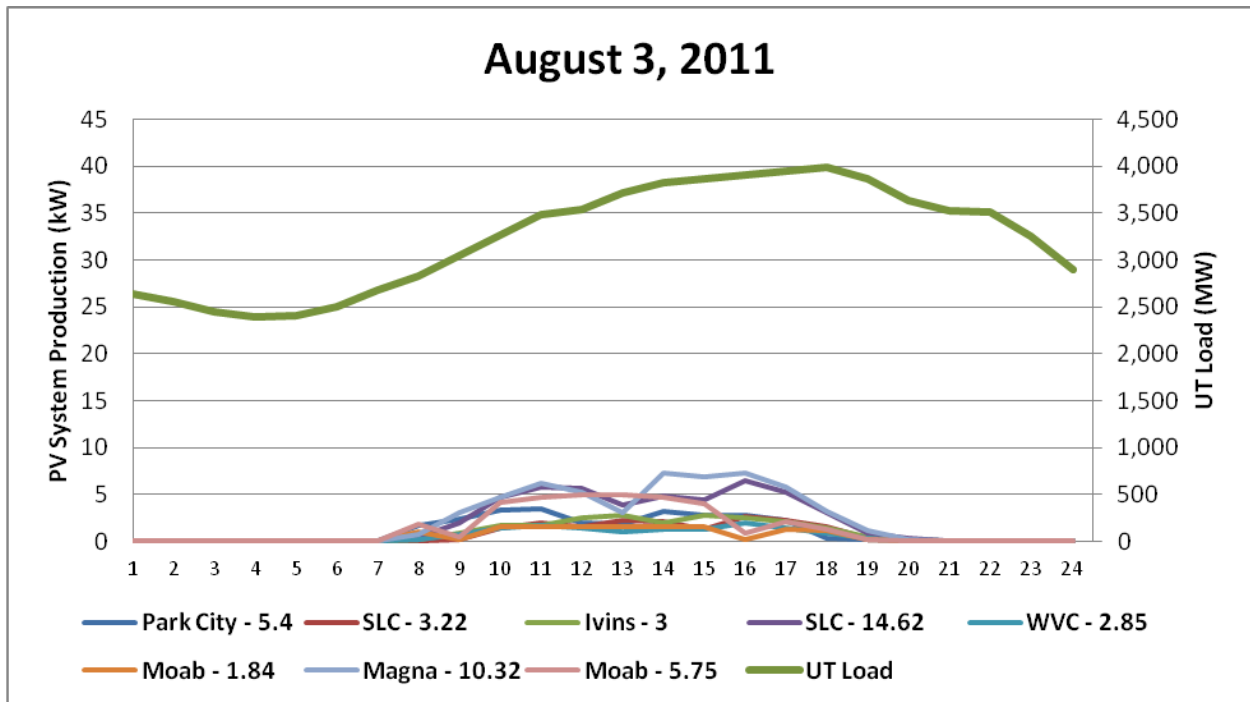


Figure 3 Utah PV Generation and System Load Profile (August 3, 2011)



Appendix 1 - 2011 Program Project Detail

Table 5. 2011 Program Residential Participants

Project ID	City	Incentive	Total system - kW	System Kw eligible for incentive	Total System Cost (\$)	\$/watt - total cost	% of Sunshine	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 %
110324.04	West Valley	\$ 2,718.70	1.764	1.764	\$ 10,727.46	\$ 6,081.33	100	180	30	Trina Solar	TSM-230PA05	9	205.2	Enphase	M190-72-240-Sxx	0.955
110324.05	Taylorsville	\$ 4,650.00	5.399	3.000	\$ 21,145.37	\$ 7,048.46	100	165	20	SunPower	SPR-230E-WHT-D	27	209.4	SunPower	SPR-6000M (240V)	0.955
110324.06	Salt Lake City	\$ 4,650.00	3.552	3.000	\$ 14,345.64	\$ 4,781.88	95	200	15	Schott Solar	Poly 230	18	207.7	Enphase	M190-72-240-Sxx	0.95
110324.07	Salt Lake City	\$ 3,640.95	2.349	2.349	\$ 15,538.00	\$ 6,614.73	100	185	30	REC Solar	REC230 AE-US	12	205	Enphase	M215-60-SIE-S2x-NA	0.955
110324.08	Salt Lake City	\$ 2,427.30	1.566	1.566	\$ 15,335.00	\$ 9,792.46	94	180	37	SunPower	SPR-225E-BLK-D	8	205	Enphase	M210-84-240-Sxx	0.955
110324.10	Castle Valley	\$ 4,650.00	6.457	3.000	\$ 27,053.14	\$ 9,017.71	100	180	38.7	Schott Solar	Poly 235	32	212.4	Enphase	M190-72-240-Sxx	0.95
110324.11	Sandy	\$ 3,569.65	2.303	2.303	\$ 16,843.00	\$ 7,313.50	100	235	26	SolarWorld	SW 230 Poly	12	202	Enphase	M190-72-240-Sxx	0.95
110324.12	Salt Lake City	\$ 4,650.00	4.364	3.000	\$ 14,112.00	\$ 4,704.00	94	217	37	REC Solar	REC235P E-US	22	208.8	Enphase	M190-72-240-Sxx	0.95
110324.13	Salt Lake City	\$ 4,650.00	3.441	3.000	\$ 13,420.18	\$ 4,473.39	100	180	20	BP Solar	BP3225T	18	201.2	Fronius USA	IG 4000 NEG	0.95
110324.14	South Weber	\$ 3,611.50	2.330	2.330	\$ 15,154.00	\$ 6,503.86	100	150	25	Siliken	SLK60 230 BLK/BLK	12	204.4	Enphase	M190-72-240-Sxx	0.95
110324.15	Ivins	\$ 4,650.00	3.174	3.000	\$ 18,800.00	\$ 6,266.67	100	180	25	REC Solar	REC235P E-US	16	208.8	Enphase	M190-72-240-Sxx	0.95
110324.16	Ogden	\$ 3,075.20	1.984	1.984	\$ 9,405.00	\$ 4,740.42	100	227	35	REC Solar	REC235P E-US	10	208.8	Enphase	M190-72-240-Sxx	0.95
110324.19	Farmington	\$ 4,304.35	3.174	3.000	\$ 14,973.00	\$ 4,991.00	100	180	30	REC Solar	REC 240 PE	16	208.8	Enphase	M215-60-2LL-S22	0.95

Project ID	City	Incentive	Total system - kW	System Kw eligible for incentive	Total System Cost (\$)	\$/watt - total cost	% of Sunshine	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 %
110324.21	West Valley City	\$ 4,650.00	3.174	3.000	\$ 35,277.00	\$ 11,759.00	100	180	25	SunPower	SPR-230E-WHT-D	16	208.8	SMA America	SB5000 US	0.95
110324.22	Salt Lake City	\$ 3,622.35	2.337	2.337	\$ 31,110.00	\$ 13,311.94	100	180	22	SolarWorld	SW230 Mono	12	205	Enphase	M190-72-240-Sxx	0.95
110324.23	Salt Lake City	\$ 2,514.10	1.622	1.622	\$ 12,985.00	\$ 8,005.55	100	173	32	SunPower	SP-230-WHT-U	8	212.3	Enphase	M210-84-240-Sxx	0.955
110324.24	Heber City	\$ 4,650.00	3.667	3.000	\$ 31,930.62	\$ 10,643.54	100	180	38	Coenergy	Coenergy P 235PA	18	212.2	SMA America	SB4000 US (240v)	0.96
110324.25	Salt Lake City	\$ 3,875.00	2.500	2.500	\$ 14,899.40	\$ 5,959.76	94	180	41	Evergreen	ES-A-210-FA	14	190	Fronius USA	IG3000	0.94
110324.26	Salt Lake City	\$ 3,224.00	2.815	2.815	\$ 16,798.35	\$ 5,967.44	100	180	15	SunPower	SPR-320E-WHT-D	10	294.8	SMA America	SB3000 US (240V)	0.955
110324.27	Vernal	\$ 3,591.35	2.317	2.317	\$ 13,602.93	\$ 5,870.92	100	180	22.5	Coenergy	Coenergy P 235PA	12	212.2	Outback	GV3048	0.91
110324.29	Bluffdale	\$ 4,304.41	2.777	2.777	\$ 12,454.38	\$ 4,484.77	100	180	33	REC Solar	REC 235PE BLK	14	208.8	Enphase	M190-72-240-Sxx	0.95
110324.31	Castle Valley	\$ 4,650.00	4.101	3.000	\$ 16,170.52	\$ 5,390.17	100	180	38.7	Schott Solar	Poly 235	21	203.4	Enphase	M215-60-2LL-S223	0.96
110324.32	Park City	\$ 4,485.97	2.894	2.894	\$ 22,845.00	\$ 7,893.44	100	222.1	30	Changzhou Nesl Solartech	DJ-230P	15	203.1	Enphase	M190-72-240-Sxx	0.95
110324.35	Salt Lake City	\$ 4,650.00	5.094	3.000	\$ 36,802.88	\$ 12,267.63	95	180	20	SunPower	SPR-320E-WHT-D	18	294.8	SunPower	SPR-5000m	0.96
110324.36	Salt Lake City	\$ 4,650.00	4.309	3.000	\$ 13,920.15	\$ 4,640.05	100	180	25	Evergreen	ES-A-210-fa3	24	190	Fronius USA	IG 5100 NEG	0.945
Total:		\$ 100,114.83	79.46		\$ 465,648.02											

Table 6. 2011 Program Residential – Withdrawn and Waiting List Participants

Project ID	Application Status Notes	App Submittal Date	City	Estimated Incentive	Estimated kW	System Orientation	System Tilt Angle (Degree,°)	Module Manufacturer	Module Model	Original App: Module Quantity	Original App: Watts Output	Original App: Module	Original App: Inverter Model	Original App: Inverter CEC Weighted Efficiency %
110324.28	Application Withdrawn/Ineligible	3/24/2011	Ivins	\$ 4,650.00	3.833	180	30	Trina Solar	TSM-225PA05	20	225	SMA America	SB5000US (240v)	0.955
110324.01	Application Withdrawn/Ineligible	3/24/2011	Layton	\$4,650.00	4.557	180	38	SunPower	SPR-238-WHT	22	238	SunPower	SPR-5000x (240V)	0.955
110324.20	Application Withdrawn/Ineligible	3/24/2011	Ivins	\$4,650.00	3.173	180	10	REC Solar	REC 235PE-US	16	235	Enphase	M190-72-240-Sxx	0.95
110324.17	Application Withdrawn/Ineligible	3/24/2011	Moab	\$3,930.80	2.536	175	38	REC Solar	REC230PE	13	230	Enphase	M210-84-240-Sxx	0.955
110324.03	Application Withdrawn/Ineligible	3/24/2011	Kearns	\$4,346.20	2.804	225	30	Sutntech Power	STP270-24/Vd	12	270	SMA America	SB3000US (240V)	0.955
110324.09	Application Withdrawn/Ineligible	3/24/2011	Salt Lake City	\$4,650.00	9.984	180	25	SunPower	SPR-225-BLK-U	51	225	SMA America	SB6000US (240V)	0.955
110324.30	Application Withdrawn/Ineligible	3/24/2011	Honeyville	\$4,650.00	3.161	220	25	Kyocera	KD-230GX-LPB	16	230	Enphase	M190-72-240-Sxx	0.95
110324.18	Application Withdrawn/Ineligible	3/24/2011	Salt Lake City	\$4,392.70	2.833	180	30	Coenergy	Coenergy P 230PA	15	230	Outback	GVFX2648	0.91
110324.02	Application Withdrawn/Ineligible	3/24/2011	Taylorville	\$4,650.00	3.129	180	20	SolarWorld	SW245 mono	15	245	Enphase	M190-72-240-Sxx	0.95
110324.33	Waiting List	3/24/2011	Saratoga Springs	\$4,650.00	3.491	122	25	Changzhou Nesl Solartech	DJ-230P	18	230	PV Powered	PVP3500	0.955
110324.34	Waiting List	3/24/2011	Alpine	\$4,650.00	4.075	180	15	REC Solar	REC230PE-US	21	230	Enphase	M190-72-240-Sxx	0.95
110324.37	Waiting List	3/24/2011	Centerville	\$4,304.41	2.777	180	42	REC Solar	REC235PE (BLK)	14	235	Enphase	M190-72-240-Sxx	0.95

Project ID	Application Status Notes	App Submittal Date	City	Estimated Incentive	Estimated kW	System Orientation	System Tilt Angle (Degree,°)	Module Manufacturer	Module Model	Original App: Module Quantity	Original App: Watts Output	Original App: Module	Original App: Inverter Model	Original App: Inverter CEC Weighted Efficiency %
110324.38	Waiting List	3/24/2011	Salt Lake City	\$2,739.29	1.767	175	20	Trina Solar	TSM-230PA05.05	9	230	Enphase	M190-72-240-Sxx	0.95
110324.39	Waiting List	3/24/2011	Salt Lake City	\$3,771.08	2.432	173	32	SunPower	SP-230-WHT-U	12	230	Enphase	M210-84-240-Sxx	0.955
110324.40	Waiting List	3/24/2011	Salt Lake City	\$2,499.72	1.612	180	38	Conergy	Conergy P 235PA	8	235	Enphase	M190-72-240-Sxx	0.95
110324.41	Waiting List	3/24/2011	Sandy	\$4,650.00	3.832	180	23	Suntech	STP185S-24/Adb	24	185	SMA America	SB6000US (208V)	0.955
110324.42	Waiting List	3/24/2011	Riverton	4,304.41	2.777	160	27	REC Solar	REC235PE-US	14	235	Enphase	M190-72-240-Sxx	0.95
110324.43	Waiting List	3/24/2011	Park City	\$2,427.61	1.566	180	18.5	SolarWorld	SW230 mono black	8	230	KACO	blueplanet 1502xi (240V)	0.955
110324.44	Waiting List	3/24/2011	Layton	\$4,304.41	2.777	173	30	REC Solar	REC235PE-US (BLK)	14	235	Enphase	M190-72-240-Sxx	0.95
110324.45	Waiting List	3/24/2011	Salt Lake City	\$4,374.50	2.822	90 & 270	22.5	Conergy	P235A	14	235	Enphase	M190-72-240-Sxx	0.95
110324.46	Waiting List	3/24/2011	Eden	\$4,650.00	4.013	150	20	Yingli Solar	YL230P-29B	21	230	Schneider Electric (Xantrex)	XW6048-120/240-60	0.925
110324.47	Waiting List	3/24/2011	Salt Lake City	\$4,650.00	3.941	196	25	SunPower	SPR-320E-WHT	14	320	SunPower	SPR-4000M	0.955
110324.48	Waiting List	3/24/2011	Greenville	\$3,325.23	2.145	170	18	REC Solar	REC215AE-US	12	215	Fronius USA	Fronius IG 3.8	0.955
110324.49	Waiting List	3/24/2011	Smithfield	\$4,650.00	6.400		40.8	Changzhou Nesl Solartech	DJ-230P	33	230	Sunny Boy (Shuco)	SB7000US	0.955
110324.50	Waiting List	3/24/2011	Salt Lake City	\$4,650.00	3.473	208	28	Changzhou Nesl Solartech	DJ-230P	18	230	Enphase	M190-72-240-S12	0.95
110324.51	Waiting List	3/24/2011	Salt Lake City	\$4,248.32	2.740	192	25	SunPower	SPR-225-BLK	14	225	SunPower	SPR-3000M	0.955
110324.52	Waiting List	3/24/2011	Salt Lake City	\$4,363.78	2.815	180	22.5	SunPower	SPR-320-E-WHT-D	10	320	SunPower	SPR-3000M	0.955
110324.53	Waiting List	3/24/2011	Sandy	\$3,569.34	2.302	180 & 270	26	SunPower	SER 228P	12	228	Enphase	M190-72-240-Sxx	0.95
110324.54	Waiting List	3/24/2011	Riverton	\$4,650.00	5.068	180	38	SolarWorld	SW230 Poly	26	230	Enphase	M190-72-240-Sxx	0.95

Project ID	Application Status Notes	App Submittal Date	City	Estimated Incentive	Estimated kW	System Orientation	System Tilt Angle (Degree,°)	Module Manufacturer	Module Model	Original App: Module Quantity	Original App: Watts Output	Original App: Module	Original App: Inverter Model	Original App: Inverter CEC Weighted Efficiency %
110324.55	Waiting List	3/24/2011	Cottonwood Heights	\$4,650.00	3.395	180	30	REC Solar	REC-230 AE	18	230	Fronius USA	IG 4000	0.94
110324.56	Waiting List	3/24/2011	Ivins	\$4,650.00	6.076	170	12	Trina Solar	TSM-240PA05	30	240	SMA America	SB7000US	0.96
110324.57	Waiting List	3/24/2011	Huntsville	\$4,650.00	3.493	180	22.5	REC Solar	REC 230 PE	18	230	Enphase	M-190-72-240	0.95
110324.58	Waiting List	3/24/2011	Park City	\$4,650.00	3.070	180	40	SunPower	SER 228P	16	228	Enphase	M-190-72-240	0.95
110324.59	Waiting List	3/24/2011	Orem	\$ -	-	180								
110324.60	Waiting List	3/24/2011	Taylorsville	\$4,650.00	5.665	180	33.5	Sanyo	Sanyo HIT 220	30	220	Xantrex	XW6048	0.924
110324.61	Waiting List	3/24/2011	Salt Lake City	\$3,320.49	2.142	180 & 270	36	Solar World	SW 230 Mono Black	11	230	Enphase	M190-72-240-Sxx	0.95
110324.62	Waiting List	3/24/2011	Santaquin			270	18.43	Andalay	ST 175-1	6	175	Suntech	STP 1755-24	Not on approved list
110324.63	Waiting List	3/24/2011	Genola			135	26.6	Andalay	ST 175-1	6	175	Suntech	STP 1755-24	Not on approved list
110324.64	Waiting List	3/24/2011	Salt Lake City	\$4,650.00	4.262	220	25	REC ScanModule	REC SCM 220	24	220	Xantrex	XW6048	0.925
110324.65	Waiting List	3/24/2011	Salt Lake City	\$3,749.57	2.419	180	36.5	Conergy	PA235	12	235	Enphase	M190-72-240-Sxx	0.95
110324.66	Waiting List	3/24/2011	Magna	\$3,875.62	2.500	180	41	Evergreen	EA 210 FA3B	14	210	Fronius	IG3000	0.94
110324.67	Waiting List	3/24/2011	Layton	\$ -	-									
110324.68	Waiting List	3/28/2011		\$ -	-									
110324.69	Waiting List	3/29/2011	Sandy	\$4,650.00	4.211	180	26	Conergy	P235A	21	225	Fronius	IG 5100 POS	0.945
110324.70	Waiting List	3/30/2011	Bluffdale	\$4,650.00	3.063		26.57	SolarWorld	SW240 mono	15	240	Enphase	M190-72-240-Sxx	0.95
110324.71	Waiting List	4/1/2011	Salt Lake City	\$ -	-	190	27	Coenergy	P235A	16	235	Outback Power	FP2-24-not eligible	
110324.72	Waiting List	4/6/2011		\$ -	-	180	30	Trina Solar	TSM-225PA05	20	225			

Project ID	Application Status Notes	App Submittal Date	City	Estimated Incentive	Estimated kW	System Orientation	System Tilt Angle (Degree,°)	Module Manufacturer	Module Model	Original App: Module Quantity	Original App: Watts Output	Original App: Module	Original App: Inverter Model	Original App: Inverter CEC Weighted Efficiency %
110324.73	Waiting List	4/12/2011		\$ -	-	180	38	SunPower	SPR-238-WHT	22	238			
110324.74	Waiting List	4/17/2011		\$ -	-	180	10	REC Solar	REC 235PE-US	16	235			
110324.75	Waiting List	6/14/2011	Huntsville	\$ -	-	175	38	REC Solar	REC230PE	13	230			

Table 7. 2011 Program Non-Residential Participants

Project ID	City	Incentive	Total system size (kW)	System kW eligible for incentive	Total System Cost (\$)	\$/watt - total \$	% of Sunshine	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 %
110324.01C	Salt Lake City	\$23,250.00	26.508	15	\$ 160,250.00	\$6,045.45	100	180	25	Schott Solar	Poly 235	130	212.4	SMA America	SB8000-US	0.96
110324.02C	Park City	\$23,250.00	19.356	15	\$ 99,031.00	\$5,116.23	100	208	16	Trina Solar	TSM 235PA05	78	262.6	SMA America	SB6000US (277v)	0.945
110324.03C	Sandy	\$23,250.00	20.922	15	\$ 95,172.00	\$4,548.93	100	180	15	Suntech	STP270-24/vb-1	90	244.7	Fronius	IG Plus 11.4-3 Delta 208	0.95
110324.04C	Syracuse	\$14,849.87	9.581	9.581	\$ 99,500.00	\$10,385.61	100	180	23	Suntech	STP185S-24/Adb	60	167.2	SMA America	SB5000US (208v)	0.955
Total:		\$ 84,599.87	76.37	54.58	\$ 453,953.00											

Table 8. 2011 Program Non-Residential – Withdrawn and Waiting List Participants

COMMERCIAL: Project ID Pg 1.0	App Submittal Date	City	Estimated KW of system	Estimated incentive	System Orientation	System Tilt Angle (Degree, °)	Module Manufacturer	Module Model	Module Quantity	Module CEC Rated Watts Output
110324.05C	3/24/2011	Orem	9.227	\$14,302.77	180	35	SolarWorld	SW245 mono	44	219.6
110324.06C	3/24/2011	Park City	1.919	\$ 2,974.45	180	40	SunPower	SER-228P	10	202
110324.07C	3/24/2011	Salt Lake City	4.244	\$ 6,578.23	180	18	SunPower	SER-228P	22	202
110324.08C	3/24/2011	Salt Lake City	1.174	\$1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.09C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.10C	3/24/2011	Salt Lake City	15.546	\$ 23,250.00	175	30	SolarWorld	SW235 mono black	78	209.8
110324.11C	3/24/2011	Sandy	2.777	\$ 4,304.41	180	14	REC Solar	REC235PE (BLK)	14	208.8
110324.12C	3/24/2011	West Jordan	9.580	\$ 14,849.87	180		Suntech	STP185S- 24/Adb	60	167.2
110324.13C	3/24/2011	Salt Lake City	1.761	\$ 2,731.06	270	18.5	SolarWorld	SW235 mono black	9	205
110324.14C	3/24/2011	Salt Lake City	1.174	\$1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.15C	3/24/2011	Salt Lake City	1.174	\$1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.16C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.17C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.18C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.19C	3/24/2011	Salt Lake City	20.921	\$ 23,250.00	180	15	Suntech	STP270-24/vb-1	90	244.7
110324.20C	3/24/2011	Salt Lake City	15.125	\$ 23,250.00	180	28	SolarWorld	SW250 Mono	72	222.3
110324.21C	3/24/2011	Sandy	14.370	\$ 22,274.80	180	23	Suntech	STP185S- 24/Adb	90	167.2
110324.22C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.23C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.24C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205

COMMERCIAL: Project ID Pg 1.0	App Submittal Date	City	Estimated KW of system	Estimated incentive	System Orientation	System Tilt Angle (Degree,°)	Module Manufacturer	Module Model	Module Quantity	Module CEC Rated Watts Output
110324.25C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.26C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.27C	3/24/2011	Salt Lake City	1.174	\$ 1,820.71	180	15	SolarWorld	SW230 mono	6	205
110324.28C	3/24/2011	Salt Lake City	14.370	\$ 22,274.80	180	23	Suntech	STP185S- 24/Adb	90	167.2
110324.29C	3/25/2011	Millville	7.417	\$ 4,650.00		43	REC Solar	REC220PE-US	40	195.2
110324.30C	3/30/2011	Park City	4.971	\$ 4,650.00	180	30	SunPower	SPR-238E- WHT-D	24	216.9