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From: Greg Kremer, Grantee for Distributed Energy Resources Grant Number 04-26

**Subject: May 2005 Status Report for Distributed Energy Resources Project # 04-26**

**Summary:** The hybrid energy system performance decreased this month due primarily to decreased output from the wind system. A total of 115 KWH were produced (vs 141 KWH in April), bringing my total production since system installation above 1 MWH. My monthly energy use was up to 46.7 KWH (due to having visitors, using an electric mower, and doing spring projects with electrical tools), but I was able to send 68.3 KWH to the grid.

The following items are being reported in accordance with the project agreement:

**Photographs of the DER system installation site:**

No new photos.

**Log of activities performed to get approval for installation of the DER system (siting, permitting, zoning, interconnection, and net metering agreements):**

- The net metering agreement is in place and all billing issues have been resolved. AEP is now hand billing my account.

**Actual Project Costs** [system design, equipment (itemized), installation, fees (itemized)]:

- \$21,797 as previously reported.

**Electric bill usage information** (starting one year before system installation, and noting major changes to the project site's energy profile): [All values in KWh, E indicates Estimated reading]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003	267	229_E	178	165	135	139	183	183	124_E	185_E	52	158
2004	130	130	66	72	47	5	-59.4	-42.1	-40	-14.4	-25.4	-20.2
2005	1.2	-32	-86	-102.2	-68.3							
12 mo. avg	45.2	38.8	28.4	17.5	10.4	119	98.6	79.8	69.8	62.8	55.5	49.2

Notes: For informational purposes, the meter reading at 6AM June 1 2004 was 29204.2

- The AEP meter reading on April 30, 2005 was ~28699.5, so my net energy balance since system installation is **504.7 KWH sent to the grid.**
- Actual energy use for May 2005 was ~46.7 KWH, almost 3X less than in May 2003.

**Monthly Energy production measured by the DER system metering equipment:**

- The system has two meters, the "AC IN" meter that feeds the core loads that are attached to the battery backup system (including refrigerator, furnace fan, some lights and outlets), and the "AC Out" meter that measures the energy provided to all other loads and the grid. The addition of the two values indicates the net energy production at the output of the inverter.

Date	AC In Meter (KWH)	AC Out Meter (KWH)	Total Monthly Energy Production	Total Energy Produced Since System Installation
June 04	NA	NA	75 KWH	75 KWH
July 04	22	NA	75 KWH	150 KWH
Aug. 04	60.5	18.5	80 KWH	230 KWH
Sept. 04	100.5	70	91.5 KWH	321.5 KWH
Oct. 04	140	92	61.5 KWH	383 KWH
Nov. 04	167	121	56 KWH	439 KWH
Dec. 04	207	144	63 KWH	502 KWH
Jan. 05	254.5	144	47.5 KWH	549.5 KWH
Feb. 05	298	181	81 KWH	630.5 KWH
Mar. 05	341	270	132 KWH	762.5 KWH
Apr 05	373	379	141 KWH	903.5 KWH
May 05	408.5	458.5	115 KWH	1018.5 KWH

**Notes on System Performance** (downtime, maintenance, repair costs, weather, etc.):

- Changed angle of solar panels on 5/14/05.
- The system performance was pretty even over the month, with 55 KWH total produced as of May 15, and 115 KWH total over the month.
- There were no "big wind" days to boost the totals for the month as there had been in past months.

**Public Education Activities:**

- Continuing conversations in the community and at the University.