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

**Subject: November 2003 Status Report for Distributed Energy Resources Project # 04-26**

Work on project 04-26 has been initiated, but system installation has not begun. Specifically, all system hardware has been ordered and most has been delivered, and initial site prep work is underway. The current plan (according to Dovetail Solar) is to pour concrete for the wind tower footer near the end of November, and complete the system installation before the end of December 2003.

One unexpected problem that could delay system installation has surfaced - the inverter ordered for the project does not appear to have the UL rating to be used in a net metering application. Dovetail Solar is working with the inverter manufacturer to resolve the issue. This is not a problem that will cause any significant delays – initial projections are that it will be resolved before the end of December 2003.

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

**Photographs of the DER system installation site (before, during, and after installation):**

➤ Will be provided when system installation begins.

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

➤ To be provided by Dovetail Solar and documented in a future report

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

➤ See attached quote (page A1)

**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		
2004												

Note that the estimated reading for October is likely wrong – I had to call AEP to correct my estimated reading for September since the estimates are based on previous usage patterns and do not reflect recent changes in household energy use.

I purchased a “Watts Up” meter and conducted an energy audit during August 2003, resulting in the following findings and actions:

- Discontinued use of underutilized chest freezer (8/20/03)
- Switched to compact fluorescent bulbs for my most-used lights (September 2003)
- Identified “phantom loads” (electricity draw when not in use) due to stereo/TV/VCR (25W), microwave (<5W), and computer (>25W), and incorporated the use of power strips to eliminate the phantom loads by disconnecting these items completely when not in use (September 2003)
- Determined that it takes approximately 2 kWh of electricity to mow my lawn with my electric mower, 4.6 kWh to wash and dry a load of laundry, and 33 Wh to toast a piece of frozen bread. In a month when no electricity was used for heating or cooling, I was able to reduce my average daily energy use to approximately 4.3 kWh, and about 80% of that was due to my refrigerator.
- Replaced an Amana 19ft<sup>3</sup> side by side refrigerator which was consuming over 100 kWh per month with a new “Energy Star” certified 18 ft<sup>3</sup> top mount refrigerator, with a projected energy use of approximately 36.5 kWh per month (November 14, 2003)

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

- System not installed

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

- System not installed

**Public Education Activities:**

- The research and energy auditing used in the development of the project proposal was used in the construction of a set of questions for the national High School TEAMS exam. A copy of the exam questions will be made available after the test is administered.