
Solar Round Table – August 25, 2009
A Report from Solar San Antonio

At the request of the City of San Antonio and CPS Energy, Solar San Antonio convened a Solar Round Table to discuss issues related to the implementation of solar energy in San Antonio.

Lanny Sinkin, Executive Director of Solar San Antonio, facilitated the meeting. William Sinkin, Chairman of the Solar San Antonio Board of Directors welcomed all the participants. Solar San Antonio staff Christine Chapa, Eric Washburn, and Andrew Woods provided support for the event.

Available responders at the meeting included Liza Meyer, Office of Environmental Policy, City of San Antonio; Bruce Evans, CPS Energy; Cris Eugster, CPS Energy; Matt Haecker, CPS Energy; Kathe Doran, CPS Energy; Alan Demos, CPS Energy; and Ray Martinez, Chief Electrical Inspector, City of San Antonio.

Approximately 90 registrants attended the Round Table, including numerous solar installers, electricians, electrical contractors, plumbers, and others in the solar industry. Members of the general public also came. Kurt Lyell, CH2MHill consultant to the City of San Antonio under the Department of Energy Solar America Cities Project also attended.

Cris Eugster noted that CPS Energy had just announced a contract for a power purchase agreement adding 14 MW of solar to the CPS system.

Alan Demos of CPS identified the following issues: (1) Quality control, particularly in connections and grounding; (2) workforce training; (3) workforce certification; and (4) apprenticeship/journeyman training and presence within the photovoltaic installation work force.

Anita Ledbetter, Executive Director, of Build San Antonio Green (BSAG) reported on a recent survey conducted by her organization. The survey found that the biggest obstacle to implementing solar in home construction is an absence of construction workers knowledgeable about how to tie solar into existing construction practices; not cost or absence of demand. A major need is to train builders. Anita also stressed that less is more; i.e. energy efficiency needs to precede the installation of solar to ensure efficiency and cost effectiveness through reducing the amount of solar needed.

A significant issue identified is the legal requirement that solar installations be done by companies having a master electrician on staff.

State law and municipal codes require the involvement of an electrician in any installation that delivers electricity, such as a solar panel. Under the law, only licensed electrical contractors can advertise or leave an invoice for electrical work.

This requirement is a separate requirement from the solar certification requirement, such as NABCEP certification. While many of the solar installers are solar certified or in the process of getting solar certified, that certification is not a substitute for the requirement that a licensed electrician be involved in the installations. The primary concern addressed by that requirement is safety; i.e. the prevention of electrical Human exposure or short/fire risks.

An electrical supplier challenged CPS Energy, arguing that safety is being compromised because there are solar installers on the CPS Energy list of approved vendors who are not in compliance with the requirement to have a licensed electrician on staff.

CPS Energy responded that they did not want to get into law enforcement. They do require certification on the solar side within two years of entering the CPS-approved list. They do not require the electrical license.

Ray Martinez, Chief Electrical Inspector for the City of San Antonio, confirmed that the legal requirements are in place and that he may have to take enforcement action in the future. His areas of concern are safety and code compliance. He does not get involved in whether the system installed is efficient. Ray may have no choice about pursuing law enforcement action in this area.

Discussion focused on two possible resolutions of the problem: (1) partnerships between solar installation companies without a licensed electrician on board and electrical contractors and (2) changing state law to create a limited solar installer license.

There are already solar companies that are partnering with electrical contractors. Such partnerships still require the electrical contractor to pull the permit and have at least a journeyman on site for the installation.

An effort was made in the last legislative session to pass a law creating something like a limited solar installer license. There are already such limited licenses for elevator electricians, sign electricians, and HVAC electricians up to a certain size installation. The legislation did not pass. The Legislature will not convene again for two years.

Russell Smith, Executive Director, Texas Renewable Energy Industry Association (TREIA), said that TREIA had developed the bill in the last session and would continue to work for such a limited licensing. Historically, electricians, electrical contractors, and electricians unions did not pay much attention to the tiny solar sector. As a result, solar installers arose who came from outside the electrical field and did not have formal electrical training. Many of the companies that are leading the way on solar are those original start up companies that did solar because they thought solar was the right way to go. They are highly experienced solar installers, fully competent in the electrical area, without an electrician's license.

As solar matured technologically and became more marketplace-competitive, the growing industry attracted the attention of the electricians. National programs are being developed to train electricians in the solar installation area. Some bad installations have been done by electricians.

TREIA is establishing policy committees to look at many such issues and encourages people to join TREIA and participate in the work of those committees (www.treia.org). In November, TREIA will hold its annual meeting in Austin.

Another issue discussed was the requirement that solar systems shut down when there is a power failure. This requirement is counter-intuitive in the sense that solar could be providing power when the grid system is down. The CPS Energy explanation for this requirement is that technicians trying to fix a down system will assume that the lines are inactive. If solar panels are continuing to feed electricity into the grid, then the technicians will be placed at risk of electrocution.

The longer term approach to this question will be the "smart house." In such a house, the solar or other non-utility systems will be managed in such a way that a grid shut down will allow continued production for the house or other building without feeding energy into the grid.

One solar installer raised the issue of a consistent standardized grounding criteria, saying that he had been using what he thought was the standard procedure and then encountered an electrical inspection that disapproved of his procedure.

This issue will be incorporated in an ongoing discussion between the electrical department and CPS Energy. Once the consensus is reached, the information will be distributed through web site, flyers at public meetings, etc.

Part of the discussion focused on the cost per kilowatt hour and how to come up with a standardized cost for purposes of explaining the economics to potential customers. While the base rate of electricity is regulated and known, the fuel recovery charge is unregulated. The cost of the fuel used is passed through 100% to the consumer. The cost per kilowatt hour will, therefore, vary based on the fuel used.

One importance of this cost figure is determining the savings that can be achieved by the customer. Those savings in turn may contribute to the value of the building hosting the solar installation. In Colorado, the value of a home increases \$3 for every watt of electricity saved. That increase in value is tied to the value of the energy saved.

Bruce Evans of CPS Energy said that the basic residential rate is \$.085/kWh. That low cost lengthens the pay back time for solar and other alternatives, with a probable payback period of 10-13 years at today's rates. The possibility exists that natural gas will escalate in price in the coming years and/or the cost of coal will escalate, shortening the pay back period. The price of solar is also coming down. Houston, Corpus Christi, and Dallas have a shorter pay back period because they have rates approximately double those of CPS Energy.

Bruce suggested that the best approach is to have the potential customer allow CPS Energy to provide that customer's actual data on usage and bill to the solar installer to allow a true cost calculation to be made.

Bob Lyons raised the question on whether the CPS Energy grid is ready for the renewable expansion. He cited problems he has had at restaurants in the downtown area with fuses blowing. He suggested that distributed energy (DG) is going to come in smaller increments, such as 5-10 MW, not 500 MW.

Bruce Evans responded that CPS is implementing Advance Metering Infrastructures (AMI) to be ready. AMI changes meters to digital and permits a two-way information exchange between the utility and the customer. He noted that San Antonio's transmission and distribution infrastructure (TnD) varies in age across the city. Distributed energy is not going to be the answer to all energy needs. CPS Energy intends to pilot 10-20 MW of DG and study how that works.

Eric Kay, master electrician with Meridian Solar, noted that DG can alleviate problems with aging distribution networks by sharing with the grid or reducing the demand from the grid. This interrelationship can extend the light of the TnD infrastructure by reducing the load that infrastructure must carry.

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Eric also highlighted the need for implementation of solar-ready criteria in construction. The potential solar availability can be lowered by placement of plumbing vents or other roof penetrations.

One solar installer said that people in general do not know about the CPS Energy rebates. Kathe Doran responded that CPS will launch an advertising campaign after Labor Day. The City of San Antonio Office of Environmental Policy will also be doing advertising and education.

The question of net metering arose. Bruce Evans responded that CPS Energy does have a net metering program. Currently that program consists of the meter running backwards when the solar system is feeding excess generation into the grid. There is a tariff in place for energy fed into the grid beyond the monthly consumption, which pays \$.02/kWh up to 25kW. To date, no solar array in place has produced more energy than the location consumed. The calculation is made on a monthly basis.

Daryl McMaster spoke about the homes he is building to implement the criteria developed by Build San Antonio Green. He built the first Level II home. The home is 3,700 square feet and has a total utility bill of about \$57/month. The electricity bill in July was \$4.72. The solar system is a 5.9 kW system. He will soon be building the first Level III home for which he expects the CPS Energy rebate and the Federal tax credit to knock out the electrical bill entirely for an investment of \$7,000. He has a goal of delivering the first net producer home. He is also incorporating rain water catchment. Water is a huge part of electrical use, with Austin estimating 46% of electrical use is associated with water use. He sees a solar payout today of 5-7 years.

The question arose whether the CPS Energy solar thermal rebate is available for retrofits as well as new construction. CPS said the rebate is available for both.

The question was raised as to how many installations have taken advantage of the rebate since restoration of the rebate program. The answer was that 7 to 10 projects are in various stages.

Historically, only 40 solar PV systems have been installed since July 2007; 1-3 kW systems on residential and 10-15 kW systems on commercial. The total installed is less than 1 MW.

The question then arose as to how the very aggressive goals of the Mission Verde program will be achieved with such a tiny installation rate.

The answer was that multiple programs will be needed to get solar into the community. The rebates are only one such program. The implementation of the Villarreal Bill, H.B. 1937, is another such program, which allows municipalities to issue bonds, use the proceeds to make loans to home and business owners for installing energy efficiency improvements and solar, and adds a fee to the property tax to repay the loan. Federal tax credits/grants are another implementation driver.

CPS is developing a new program that is similar to feed in tariffs that will also be a driver for some additional installation.

There is a certification program for solar thermal installers. Apparently, there is no one in Texas yet with the certification.

Cliff Borofsky from Project Quest noted that there are funds available for green jobs training and a need to identify what jobs will be available in the future. Project Quest and Solar San Antonio will be cooperating in a survey to answer the jobs potential question.

David Jarrell stated that as a potential customer he was concerned about whether the solar vendors were qualified or not and how he would be able to determine their qualifications. He does not want to waste his money by installing a system that does not work.

The question of a next meeting arose and the majority of participants indicated a quarterly meeting would be appropriate. Solar San Antonio will convene the next meeting, probably in the second week of January.

Submitted by:

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