

Star-Telegram

Energy audit reveals how Parker County couple could reduce their electric bills

Posted Sunday, Mar. 07, 2010

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Imogene Simpson and her husband, James "Buddy" Simpson, a retired Parker County couple of modest means, still haven't paid their \$646.68 electric bill that was due to TXU Energy in mid-February.

The Simpsons have protested the bill and questioned the accuracy of their meter, while at the same time accepting an offer by TXU for a free home energy audit, which was conducted Tuesday.

Preliminary results of the audit by Irving-based TexEnergy Solutions show that the Simpsons' 2,150-square-foot home three miles south of Weatherford would be far more energy-efficient if the couple had "properly designed" heat pump, duct and insulation systems.

Had those systems been in place in January, their electric bill could have been at least \$250 lower, estimates Jerold Davis, managing director of TexEnergy Solutions.

Davis said the recommended improvements could cost "in the ballpark of \$10,000 to \$14,000, depending on the efficiency level of the heat pump."

Affordability issue

Imogene Simpson said Friday that the couple can't afford to spend that much money.

"I couldn't even borrow it and make payments on it," she said, noting that the couple's monthly bills include a \$600 truck payment and some credit card debt.

Imogene, 78, a retired secretary, and James, 76, a retired printer, have a monthly income of \$2,722 -- or slightly less than \$33,000 annually -- that includes their Social Security checks and her small pension from the Tarrant County College District.

But energy-efficiency and weatherization programs might pay for the improvements, or at least a portion of them.

The Simpsons, who are behind on their electric bills, owed TXU a total of \$1,529.47 as of Friday; \$705.36 must be paid to keep the power on. But TXU spokeswoman Sophia Stoller said the company will try to "work out a payment plan" with the Simpsons and see whether its Energy Aid program can help.

After an exceptionally cold winter sent North Texans' electricity bills skyrocketing, many might be more open to paying for energy audits and home energy-efficiency improvements. A comprehensive audit might normally cost about \$500, but it could bring large savings over time, according to Kerry Hutchison, the TexEnergy project manager who oversaw the audit of the Simpsons' home.

During the audit, TexEnergy determined the home's efficiency by pressurizing the home and its duct system to find leaks. A blower door, a fan that fits into the frame of an exterior door, lowers the air pressure inside the house, and a smoke pencil generates a small amount of smoke to help detect drafts.

Key audit results

Here are deficiencies that the Simpsons' home audit revealed, with explanation provided by TexEnergy's Hutchison and Davis.

- The home is "semi-loose." That means that "both the building envelope and the duct system were leakier than they should be, but not nearly as bad as many we see," Davis said.
- Its insulation was "marginal," Hutchison's preliminary report said. The insulation capability was estimated at R-11, far below the recommended R-38.
- The leakage in the duct system was measured at 17 percent. "It should be under 10 percent," Hutchison noted. "The design and installation of the duct system is poor."
- The home should have a heat pump, rather than its current electric-resistance furnace, which is less efficient, the report said.

"A heat pump is a reverse-cycle air conditioner," Davis explained. "It moves heat from inside to outside in the summer, and from outside to inside in the winter. There is enough heat in the outside air to heat most homes down to an outside temperature of around 30 degrees with the heat pump compressor.

"When it gets colder, the heat pump is supplemented with electric-resistance heat, but the overall efficiency of the system is still over twice as efficient as resistance heat alone."

- The report also noted that the home's heating unit was improperly wired "and was causing excessive run time" that used more electricity.

- The condensing unit for the air conditioning system -- the compressor unit outside the home -- was "disabled," as was the indoor coil designed to be chilled by refrigerant, the report said. Imogene Simpson said the condensing unit "just burned up" after "fire ants got into the line and destroyed it."

The couple instead stayed cool in the summer with two window air-conditioning units, which generally are less efficient. This winter, they kept their thermostat relatively low, 65 to 68 degrees, in an effort to reduce their electric bills, James Simpson said.

Over the past 12 months, the Simpsons' monthly electric bill averaged \$257.79. But over the last three months, their bills have averaged \$482.99. For the \$444.14 bill they received in February, they paid a rate of 12.33 cents per kilowatt-hour for the first 600 kilowatt-hours and 10.99 cents per kilowatt-hour for the remaining 3,218.

Substantially lower variable and fixed rates are available in Texas' deregulated market, but numerous homeowners are still paying higher rates than the Simpsons.

Unresolved concerns

"I still want a new meter," Imogene Simpson told TXU's Stoller during Tuesday's energy audit. The Simpsons previously said they suspected that their meter -- a traditional electromechanical meter rather than a new digital "smart" meter -- was not functioning properly and thus contributing to their hefty bills.

Stoller later said TXU requested a new meter for the Simpsons, but Oncor Electric Delivery -- the transmission and distribution company serving most of North Texas -- denied the request because the Simpsons' meter had "tested accurate."

Oncor officials have said repeatedly in recent weeks that the primary reason for skyrocketing electric bills has been the exceptionally cold winter, causing heating systems to run harder and longer.

But that's not much consolation to the Simpsons, as they wrestle with TXU over their unpaid bills and ponder the efficiency improvements recommended by the audit. Even if the moves could slash their electricity costs and help make their retirement more affordable, they wonder whether they can pay for it.

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