



1-800-762-0997

www.pioneerec.com

Pole Testing Preventive Maintenance *Saves Money & Improves Service!*



Ron Salyer
 President & CEO

As I write this article, Pioneer's electric system has been subjected to the high winds, rain, hail and lightning associated with springtime storms. I am pleased to report our electric system did not fail in any significant way, as only a handful of members experienced outages for a few hours during the month of May, with most members not experiencing an outage at all during these spring storms.

Weather events like these put Pioneer's preventive maintenance programs to the test. We perform many maintenance functions to "keep the lights on" during these rough weather emergencies. One program Pioneer has consistently implemented is the electric pole testing and replacement program.

"The electric pole testing and replacement program is a 'win-win' for our members because Pioneer saves about \$154,000 in costs while maintaining very reliable service. Proactive maintenance is a tremendous benefit to Pioneer's members."

—Ron Salyer, President/CEO

Pioneer has almost 49,000 electric poles in place to serve our members in the Champaign, Miami, Shelby and eight surrounding counties where we provide electric service. To do our best to make sure these poles stay up during weather emergency conditions, we test about 7,000 of these poles each year to see if they are in danger of falling easily due to high winds, ice or other weather-related factors. Generally, about 2 percent of our 7,000 poles tested in any given year are determined to be in danger of falling during the next major weather emergency. The 140 poles or so that we find in need of replacement are put on a list for our line crew members to replace on normal workdays during opportune times. This saves money, since crew members perform their tasks on normal work hours (avoiding premium — emergency — pay rates), and allows for efficient scheduling so the poles can be changed out over the whole year, utilizing our trucks and

manpower to complete this work. It only costs about \$8 to test each pole, and the savings are tremendous.

The alternative is to wait and let Mother Nature take control, knocking these poles down and causing the lights to go out. Letting nature take its course is really the worst approach for a variety of reasons. The first reason is that an electrical outage will usually occur when a bad pole breaks. The second reason is that the storm has the potential to knock down many of these poles at the same time. If this occurs, Pioneer would need to call for extra help to supplement Pioneer's normal work crews. These supplemental crews generally respond from other parts of the state of Ohio from other cooperatives. This greatly increases the outage restoration time when these poles need replacing during emergency conditions. Crews are paid emergency pay rates as well while having to work in very challenging conditions. The following shows the financial savings from implementing the program:



140 poles — replacement cost during emergencies:	\$417,200
140 poles — replacement cost on a planned work basis:	\$207,200
7,000 poles testing cost:	\$56,000
Annual estimated savings of the program:	\$154,000

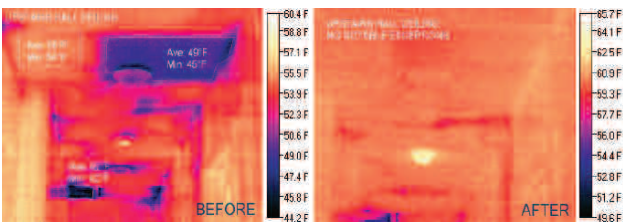
This is one of many programs Pioneer has in place to keep the lights on while saving money. Watch for the latest in our technological advancements to save you money during the next few months.

Measured Energy Savings: Pilot Projects Put Efficiency Upgrades to the Test

In my three years as an Energy Advisor performing home energy audits and talking to uncomfortable and unhappy homeowners over the phone when the weather is at its worst, I have audited and profiled just about every type of home you can imagine in our region — all-brick, uninsulated century homes that are about as efficient as a glass box all the way through new, custom-built, high-efficiency homes that are comparable to an air-tight Thermos. However, whether the house is old or new, I have seen the same issues repeated time and time again that lead to drafty, extremely hot or cold rooms and soaring energy bills.

While the fixes for these common problems have been documented by energy experts such as the Department of Energy and the Building Science Corporation, those of us in the cooperative world like to test things out and see real-life results and savings for ourselves. Over the past year, Buckeye Power, your power supplier, has deployed a series of energy efficiency pilot projects across the state so we can collect data on energy use and money spent before retrofits, the cost of retrofits, and resulting energy and money saved as the result of various home improvements. The projects also attempt to track the less tangible benefit of improved comfort that is often difficult for homeowners to put a price tag on.

Pioneer has been part of four pilot projects: a heat pump water heater installation, a central air conditioner upgrade, and “light” and “in-depth” weatherization upgrades. While it will be a few months before there is a full year’s worth of data for the first installed projects, one of the weatherization upgrades has already produced tested air leakage reduction results with the help of a blower door test.



For the “light” weatherization upgrade, a 2,769-square-foot, all-electric home built in 1993 with geothermal heating and cooling was selected. With a story-and-a-half Cape Cod construction, the member reported temperatures 10–20°F colder in the upstairs bedrooms and bathrooms in winter compared to the first floor, and stifling heat in the summer.

During an energy audit, I was able to identify that the knee wall insulation for all of the upstairs rooms was left

exposed and sagging in some places, effectively dropping the rated R-value from an R-13 to somewhere between an R-9 and R-3.5. In addition, there was significant air leakage in the second story floor cavity and around receptacles and light switches on the knee walls.

In the traditional attic space, R-30 fiberglass batts were installed with gaps and spaces. In some places, the batts were missing altogether. When fiberglass insulation is installed improperly with gaps, it can decrease the rated R-value dramatically, effectively making an attic with R-30 insulation perform somewhere between R-22 and R-8.5.

Moving into the basement and crawl space, I identified that the rim joist had not been sealed before it was insulated with fiberglass batts, and removing the batts showed dust stains along the edges as a result of the batts acting as air filters as unconditioned exterior air leaked into the house. Finally, the cinder block crawl space, which I like to refer to as a “mini-basement,” was vented and uninsulated.

Working with local spray foam installer Heitkamp Foam, LLC, and local cellulose installer, Pothast Blown Insulation, I took the home through a four-step upgrade process:

1. Air seal and insulate rim joist of basement and crawl space with 2 lb. spray foam for R-13
2. Air seal and insulate block crawl space walls with 2 lb. spray foam for R-10
3. Air seal and insulate attic side of knee walls with 2 lb. spray foam for combined R-18
4. Insulate attic floor with blown cellulose for combined R-52

When fiberglass insulation is installed improperly with gaps, it can decrease the rated R-value dramatically, effectively making an attic with R-30 insulation perform somewhere between R-22 and R-8.5.

While the upgrades occurred at the end of the heating season, the homeowner reported immediate comfort improvement of decreased temperature variance between the first and second floor. Using a blower door to measure pre-improvement air leakage compared with post-improvement air leakage, we found that the **air leakage was reduced by 25 percent!**

Check back to *Country Living* and our website (www.pioneerec.com) for future findings from these pilot projects.

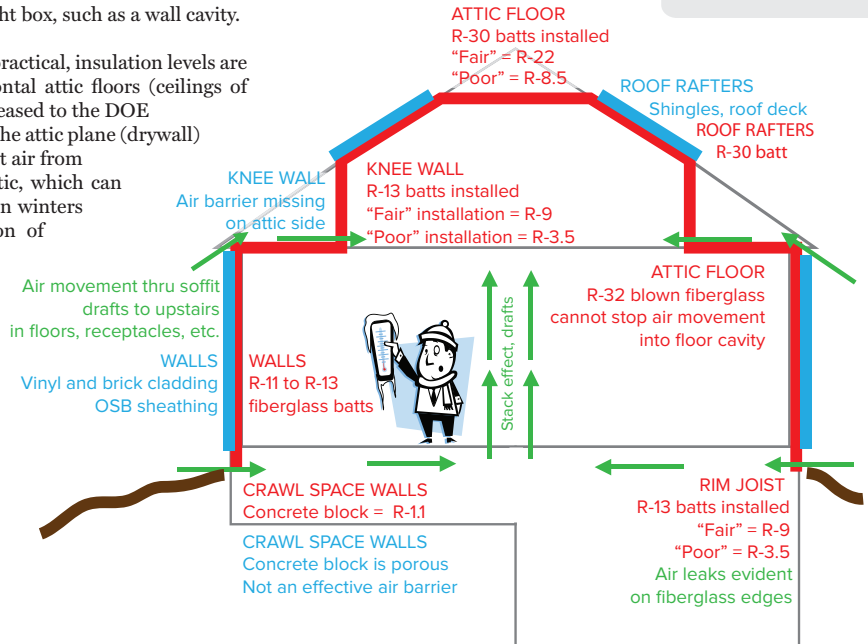
BEFORE EFFICIENCY IMPROVEMENTS

Images are conceptual and not drawn to scale

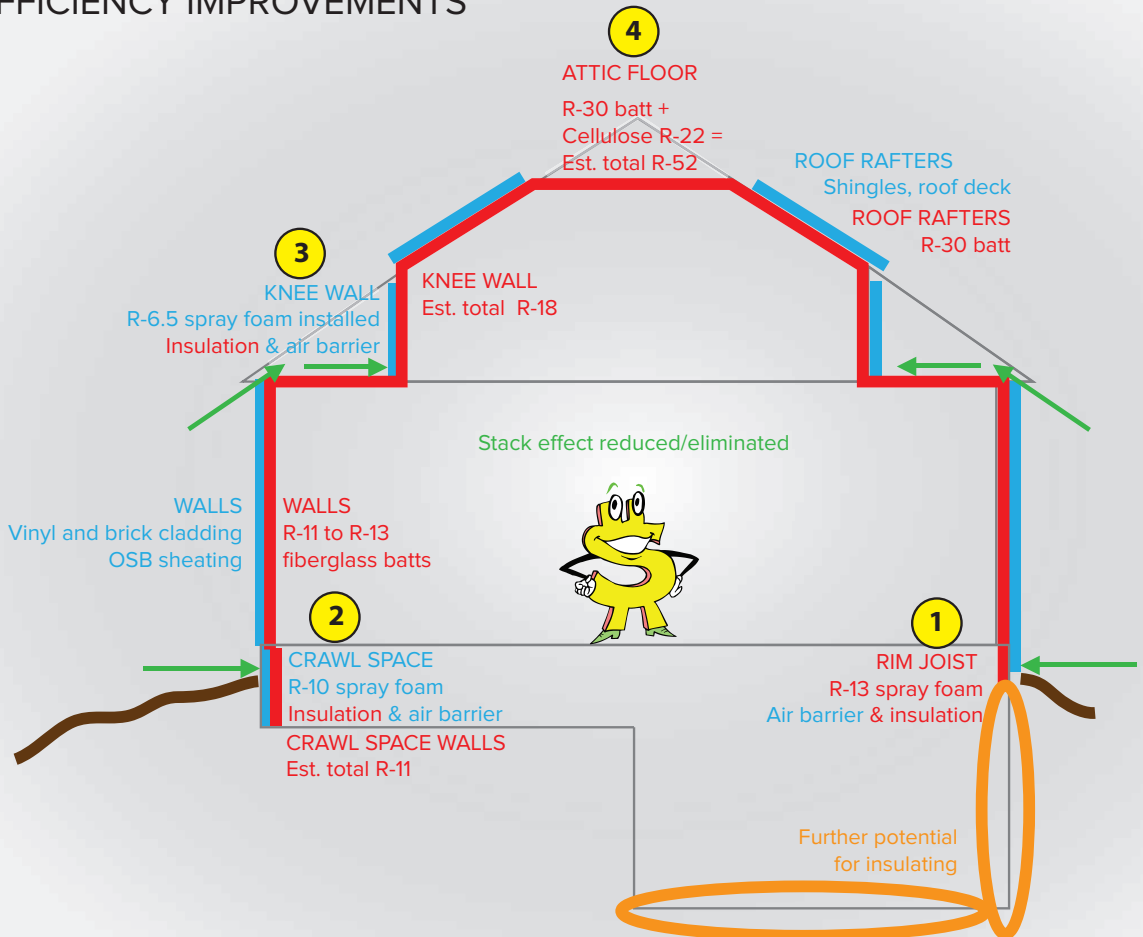
Insulation performs best in a six-sided airtight box, such as a wall cavity.

When this is not economically or physically practical, insulation levels are increased to compensate, such as in horizontal attic floors (ceilings of living space) where insulation levels are increased to the DOE recommended R-42 (for our climate zone). The attic plane (drywall) should still be airtight to prevent warm moist air from migrating from the living space into the attic, which can lead to condensation on the cold roof deck in winters and ultimately accelerating the degradation of building materials via mold and rot.

According to the Building Performance Institute's (BPI) Technical Standards for Certified Building Analysts, the quality of the installation for fiberglass batts determines the "Effective R-Value." That is, if batts are installed with gaps or air can flow through batts, this can dramatically lower the rated R-value of the insulation, such as with exposed knee wall insulation. See illustrations for examples of actual estimated R-value, due to poor installation.



AFTER EFFICIENCY IMPROVEMENTS



Pioneer Electric Cooperative

937-773-2523
1-800-762-0997
www.pioneerec.com

QUICK PAY
1-888-836-1422

PIQUA

344 West U.S. Route 36
Piqua, Ohio 45356

URBANA

767 Three Mile Road
Urbana, Ohio 43078

BOARD OF TRUSTEES

Ronald P. Clark
Chair

Edward P. Sanders
First Vice Chair

Paul R. Workman
Second Vice Chair

Douglas A. Hurst
Secretary

Ron L. Bair
Treasurer

Orville J. Bensman
Donald D. DeWeese
Colleen R. Eidemiller
Dwain Hollingsworth
Trustees

Harold T. Covault
S. Joe Eidemiller
Raymond F. Wenrick
Donald K. Zerkle
Trustees Emeritus

PRESIDENT/CEO

Ronald P. Salyer

Monday-Friday
8 a.m.-5 p.m.

What's your *Energy IQ*?

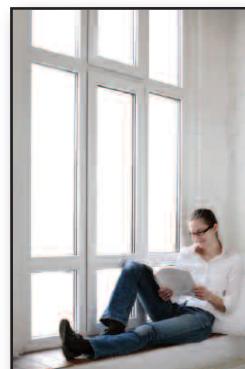
In this month's contest we will test your knowledge about windows. If you are stumped, search the National Fenestration Rating Council (NFRC) website, <http://www.nfrc.org/>, for answers.

Please send your answers to:
energyadvisor@pioneerec.com
OR

Energy Advisor: Energy IQ
344 West U.S. 36
Piqua, OH 45356

Answers must be received by **July 15**, and all correct answers will be entered in a drawing for a **\$50 bill credit**. Prizes subject to change. Check back next month for the correct answers. (One winner per household in a six-month period. Only Pioneer members are eligible to participate.)

- The name for products that fill openings in a building envelope including windows, doors, skylights and curtain walls designed to permit the passage of air, light, vehicles or people is:**
 - fenestration
 - building shell
 - glazing
 - envelope
- With windows and doors, this is used to measure how well a product prevents heat from escaping:**
 - R-value
 - K-value
 - U-value
- True or false:** In newer homes that already have double-pane windows, replacing windows generally has a long payback period, or a small return on investment.
- Things to look for if you are in the market for replacing windows:**
 - the Energy Star label
 - low-e coatings
 - a high condensation resistance (CR) rating
 - all of the above



Last month's answers:

- "Air movement through a material (insulation) will not affect R-value" was the false statement.
- False: Doubling R-value does not double energy savings.
- High-density spray foam has highest R-value per inch.
- The grey, borate-treated insulation used in these images was cellulose insulation.



kWh Tax Disclosure Statement

Under state law, the amount you are being billed includes kilowatt-hour taxes that have been in effect since May 2001 and are currently: the first 2,000 kWh at \$.00465 per kWh, the next 2,001 to 15,000 kWh at \$.00419 per kWh, 15,001 kWh and above at \$.00363 per kWh.