What is a HERS Rating?

By David Holtzclaw of Transduction Technologies

If you or someone you know is looking at buying a new home, you might have heard about a HERS Rating. The Home Energy Rating System (HERS) Index is the national recognized, industry standard for measuring the energy efficiency performance of a new home. A certified RESNET Home Energy Rater, like **Transduction Technologies**, conducts an energy rating on a home to determine its energy performance. The HERS Rater performs diagnostics testing on the home's air leakage or draftiness, and ductwork air leakage. The energy rater also inspects the HVAC equipment, hot water system(s), appliances, lighting, windows and doors, and insulation levels throughout the house. All of this information, along with location and weather data, is inputted to a computer model, which then generates the HERS Index. This HERS Index is ONLY for the house or building structure itself and is independent of occupant behavior. It assumes certain thermostat and hot water heater set points. Therefore, the HERS Index gives the homeowner, potential buy, or renter an indication of how energy efficient the house or apartment is and the customer can make comparisons to other similar homes. In 2013, approximately 35% of all new homes in the U.S. received a HERS Rating. However, in Nebraska, only 700/6000 (12%) did.

The HERS Index score ranges from negative infinity to positive infinity where 0 is a net zero energy consuming dwelling. The reference point for the HERS Index is a house built to the 2006 energy code, or International Energy Conservation Code (IECC) standards. A house built exactly to the 2006 IEEC standards scores 100 on the HERS Index. A new house built in Omaha today to current building codes (2009 IECC) would have a HERS score around 80-85. Each 1-point decrease in the HERS Index corresponds to a 1% reduction in energy consumption compared to the HERS Reference Home (2006 IEEC code). Likewise, every 1-point increase in the HERS Index corresponds to a 1% increase in energy consumption compared to a 2006 "code built house." So a typical midtown house would score around 150-300 depending on the condition of the house.

Since the HERS Rating is a rating of the physical building itself and is independence of occupant behavior is a real advantage for real estate transactions because it proves potential buyers with an idea of what their monthly utility bills will be with different occupants. Several "green" or sustainable building labels for new house require a HERS Rating: Energy Star, LEED, and the Passive House Institute. A HERS Rating is also a requirement for an Energy Efficient Mortgage (EEM) and/or an Energy Improvement Mortgage (EIM). The EEM is offered by FHA (HUD), VA, and Fannie Ma.

However, since it is independent of occupant behavior, several studies have shown that the HERS Rating can be a poor predictor of actual energy consumption of occupied homes due to variability in occupant behavior. Furthermore, since the reference home is a new home built to the 2006 energy building code, it proves little information for home buyers of older homes, which generally score poorly due to differences in construction technology over the decades. Because of this, the vast majority of HERS Raters are on new homes.