News Release

Net-Zero Energy House-By Mike Barter

Phyllis and Mike Barter have built an IntegraSpec Insulating Concrete Form (ICF) house located in Delano, Tennessee on route 163. This house was built to provide the Barters with a sustainable, self- supporting, energy efficient house that would provide them with no energy costs during their retirement years. Below are the particulars of this house.

The insulated concrete walls, including the gables end walls are all steel reinforced, insulated, concrete walls. The roof is a SIP eight inch insulated foam panel(s) with OSB structural boards on both sides. The house has a foundation footprint of 1800 square feet supporting a daylight lower level, a main first floor, and a cathedral ceiling second floor. The total living square footage is 3658. The HVAC system installed by Webb Plumbing and Heating has a two speed compressor with the air handling system including a heat pump for backup heating, and a hot water coil with hot water supplied by the Solar Hot water unit(s) as the primary heating. The Solar Hot water system heats and stores hot water in three fifty-five gallon barrels, along with the hot water heater, which provides seventy-eight gallons of storage, providing a total of 243 gallons of storage of 161 degree plus hot water. These tanks are located in the lower level in an insulated concrete room. This hot water is circulated through a Solar Hot coil water heater. This Solar Hot water heating tank has heating elements which provides hot water when required for either the domestic hot water system or for the house heating hot water coil unit. Twenty electrical solar panels, a 5 KW system, generate 240 volt AC power with their own meter. All power generated is sold to TVA under a ten year contract. The cost of the used KW is subtracted from the generated KW power contract value. To date, the out of pocket electrical cost to the Barter's last year was slightly over $400. The cost of the 5 KW solar units has a 5.8 year payback. The hot water coil heat for the house this last year was provided by the Solar Hot water heater elements. An insulated concrete house is designed and constructed to eliminate drafts and air infiltration. The air to air heat exchanger, part of the original design that removes the stale air from the kitchen and bathrooms, transfers the temperature of the stale air to fresh incoming air. In the corner of the lower level is a cold cellar, constructed with insulated concrete walls on all four sides and with an insulated ceiling. Designed for vegetable storage during winter months at geo thermal temperature, 59 degrees, this room can also be used as a tornado shelter / safe room when necessary.

The remaining part of the energy efficient system is to install a solar hot water unit. The cost of the solar hot water system has a 4.2 year pay back. When the solar hot water unit is installed and is operational, the total monies generated will be greater than the total monies spent, thus providing a NET-Zero Energy house using present day proven technology.

For additional information about this "Green" home, please call Mike Barter at 228-209-1069.