

insulation & hvac

Therm Prices Double—Yet Total Building Heating Cost Lowered?

BY EUGENE ROMSOS

ENERGY ANALYST/ADVISOR

SUBMITTED FOR THERMAL DESIGN

Over the past four years Glenn Hile, transportation manager for the Shell Lake School District, was instrumental in actually lowering the total heating cost at the school's bus garage during a period when the cost per therm has doubled. Energy unit consumption for the school district's bus garage was reduced over 50% with an insulation renovation in the roof portion only.

"We are a very well run School District with only about 550 students and a total fleet of 11 busses," Hile stated. "Ten actively used busses can be housed inside using both our heated shop and adjoining heated storage area. Our spare bus is stored outside. In northern Wisconsin where it can easily drop to 40 below zero, it is best to keep busses stored in a heated storage garage. They are ready to go for the drivers and warm inside when the first students get aboard."



Hile

It all started four years ago when Hile and school superintendent Jerry Gauderman became interested in the energy efficiency of the bus garage and began looking around for some potential solutions. Although their mechanical equipment was old and inefficient they realized the "logical step" was to improve the envelope efficiency before installing any new furnaces. The building was old with over-the-purlin insulation that remained in pretty good shape, but was not efficient. Hile was introduced to the "retrofit" Simple Saver System by a Thermal Design sales person. A local contractor, T & H Construction, was lined up to install the system and a price proposal was presented to the superintendent. The proposal was to retrofit the 40' x 60' maintenance shop portion of the 40' x 150' building.

"You could almost feel the change as it was being installed," Hile stated. "It not only added some badly needed mass insulation to our roof line but the one-piece vapor barrier encapsulated the purlins, which eliminated some prior condensation problems, and really brightened up the working conditions." The energy savings and improved working conditions experienced from the initial shop installation prompted a proposal for the remaining 90' renovation to be put into the budget for the spring of 2005.

People often think there is little, if any, payback from well-insulated storage buildings that are maintained at only 45 to 50 degrees. If you are in doubt, just ask Hile or Gauderman about the energy savings they experienced in 2005/06 after the remaining portion of the bus garage was completed with the same retrofit Simple Saver System.

The foreman from T & H Construction was also impressed with the system. He made a comment in 2003 while installing the first 60' shop portion... "now this is the way to insulate a metal building, why don't they (builders) all use this system when a new metal building is erected?" (Note: The company he works for builds mostly wood structures).

The first installation in the 60' shop area was done during May of 2003. It was quickly challenged by a harsh 2004/05 winter. The remainder of the building was completed in the spring of 2005. Below is a table reflecting the actual therms of fuel used in each of the past four school years (July-June billings).

2002/03.....5413 therms
2003/04.....5025 therms
2004/05.....4501 therms
2005/06.....2170 therms

Hile is a young 70-years-old and he just retired in June 2006. He has left a wonderful record with the Shell Lake School District by not only keeping their busses running safely but also by being instrumental in "lowering" the energy costs for the bus garage during a four year period when fuel costs (\$\$\$/therm) have more than doubled.

The bottom line (profile) of your building's insulation system can have a tremendous effect on your customer's financial "bottom line". Are you still specifying over-the-purlin type installations or are you giving the best with encapsulated purlins and full cavity mass insulation? Similar results to those enjoyed in Shell Lake, WI, can be sold to your customers.

(Note: Monthly consumption figures were provided by WE Energies.)

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