

Summer 1999

Louisiana Energy Briefs

Department of Natural Resources

Technology Assessment

Division

A Publication of the Louisiana Department Of Natural Resources Energy Section

Insulation Education Demonstration Project

The Energy Section has an ongoing project that is running a comparison between standard batted fiberglass insulation and radiant barrier insulation. Three building shells of the same size, material and construction were assembled at The Greater Baton Rouge Zoo, the only difference in the three buildings is the insulating material. One of the three buildings is a control building and has no insulation installed. The interior temperature of all three buildings is thermostatically controlled and maintained at a constant 75 degrees Fahrenheit and the amount of energy required to maintain this interior temperature is recorded and summed to determine which of the two insulating materials is the most energy efficient. The demonstration is next to the elephant exhibit at the zoo and will remain in place through the end of 1999. The results of the comparison will be published in early 2000.

Photovoltaic Demonstration Project

The Energy Section has developed a project to demonstrate the application of photovoltaic power in an area where conventional electric power may not be possible or may be cost prohibited. In order to create a real world example, two solar panels were erected in the Louisiana Department of Wildlife and Fisheries Waddill Refugee's Outdoor Educational Pavilion. The Solar Panels are part of a complete stand-alone system that will totally power the pavilion's lights, fans, and skeet throwers which are housed in the same location. The pavilion will feature the most advanced technology currently available to automatically control the fans and lighting thus making the energy use characteristics of the building highly energy efficient. The undertaking is expected to be complete by the end of June 1999. The project, constructed primarily as an educational site, was a partnership effort between Departments of Natural Resources and Wildlife and Fisheries.

Trawl Door Research and Development in Louisiana

This program was designed to replace the hydrodynamically inefficient aluminum and wooden trawl doors on the shrimpers' nets with more efficient designs. Specifically the slotted polyvalent and cambered doors

Louisiana Department of Natural Resources

Technology Assessment Division

Energy Section

P.O. Box 44156

Baton Rouge, Louisiana 70804-4156

225-342-1399

<http://www.dnr.state.la.us/SEC/EXECDIV/TECHASMT/ENERGY>

will be used to promote fuel conservation and reduce operating costs while having no more environmental degradation than the original design. This testing was the first of its kind in the southeastern region of the United States, and the results were even more successful than previously expected. During preliminary tests, it was found that boats used 50% less horsepower while maintaining the same level of drag pull. Such a cutback could result in a sizable decrease in shrimper overhead cost, and a significant reduction in fuel emissions.



Poly Ice Doors

AEE Awards Energy Project of the Year

Lafayette General Medical Center recently was the focus a U.S. DOE Institutional Conservation program administered by the Louisiana Department of Natural Resources. The program was recently lauded the Energy Project of the Year by the Association of Energy Engineers International. The Medical Center, located in Lafayette, LA, is a 463,000 square foot (SF), 332 bed, comprehensive regional medical facility built in 1965. The objectives, determined prior to this energy study, included the replacement of chillers in increments of 500 tons, and a comparison of high efficiency electric chillers versus gas adsorption chillers. Prior to DNR assistance in the energy conservation program, the hospital operated at 754,753 BTU/SF/Year, which resulted in an annual utility cost of \$1,120,000. After the study objectives were successfully met, the hospital was operating at an astounding 505,648 BTU/SF/Year. Cumulative savings over their benchmark year of 1983, with costs adjusted for utility rate changes, have exceeded \$5.6 million. The current annual utility cost is lower today than it was in 1983, in spite of adding 179,000 square feet. The total cost of this program was \$1,582,417, 50% of which was supplied by U.S. DOE's Institutional Conservation Program through the Department of Natural Resources, and was then matched by Lafayette General Medical Center.