

recently received the results of an energy audit provided by the Cape Light Compact (CLC), a municipal energy-buying group made up of Cape and Island towns that provides energy conservation programs.

Mr. Binney called Mr. Nelson for advice.

"We looked through the school's heating and ventilation system, and realized that quite a large yearly savings in electricity and fuel oil was possible," recalled Mr. Nelson.

The school uses oil-fired boilers to run a forced hot air heating system. The system is very inefficient.

In some classrooms where thermostats are located on outside walls, the call for heat is constant.

At Mr. Binney's suggestion, Mr. Nelson contacted John Burns, a Cape Light Compact (CLC) staff member who oversees commercial and industrial programs. Mr. Burns said that if Mr. Nelson and the school partnered with a corporation that would guarantee a yearly energy savings, the school could apply to the CLC for energy conservation funds to offset the project's cost.

In October 2004, the Oak Bluffs School Board issued a request for bids for a proposal to renovate the school's entire mechanical system and install a digital control system. Siemens and Nelson Mechanical Design responded with a proposal.

Mr. Binney then contacted Siemens, a leading provider of building controls, fire safety, and security systems. The company examined the school's equipment and utility bills, and projected energy savings at \$65,000 annually, based on boiler replacement, an energy management system, and demand control ventilation.

"At the moment, everything runs 24 hours a day," Mr. Binney said. "It is an inefficient way to run a school. The new system will offer a sort of individual zoned control system in which you can turn on and shut down circulation systems, heating, and hot water."

If given the go-ahead, Mr. Nelson and his partner Dave Sprague, also a master plumber, plan to assemble a team of seven to nine Island employees to complete the renovation at the school.

"We will replace boilers and motors, and the rest of it will be direct digital control. Siemens provides the training to us and the Oak Bluffs staff. They assist us with the installation, and they also will train us in maintenance," said Mr. Nelson.

The Siemens APOGEE tm building automation system utilizes a Pentium-based personal computer, networked throughout the school. The system includes an energy management feature utilizing Microsoft Windows technology to monitor temperature, humidity, and ventilation over a fiber optic network.

Should the energy-saving project begin soon, one of the school's returning students, Mr. Nelson's daughter Sophie, will be watching it closely.

"She felt better when I explained that this winter, for the first time since the school was built 10 years ago, the Oak Bluffs School will save 24,000 gallons of fuel oil," said Mr. Nelson. "She is proud that her school will be making such a significant contribution to reducing pollution and global warming."