Computer regulates energy in academic buildings

By Eric Peterson

An energy-regulating computer is the most elaborate of the energy-saving measures being taken in UNL academic buildings and residence halls.

Jim Hines, energy conservation manager at UNL, said the university has had an energy computer since 1969, but the present system was installed four years ago. The computer, which is connected to heating and air conditioning monitors in 18 academic buildings, optimizes efficiency by moderating energy usage, Hines said.

"Most of the campus buildings were designed in an era when energy wasn't a problem, and this computer helps reduce the inevitable waste," Hines said.

Hines said one of the buildings connected to the computers is the Agricultural Engineering building on East Campus, which was hooked up to the computer in the last two weeks. The Temple building is now being connected to the energy-regulating computer.

The campus residence halls, the biggest energy users on campus, are not on the computer system because they are economically self-supporting and can't use state funding, Hines said.

"It's impossible to figure out exactly how much money and energy the computer itself has saved because the individual buildings haven't had energy monitors," Hines said. "However, we plan to do an evaluation of energy savings in the future,"

New roofs

Other energy-saving features implemented by the UNL physical plant have included re-roofing of campus buildings and making mechanical systems more energy efficient, said Gary Thalken, engineering analyst at the UNL physical plant.

Thalken said the combination of roof repairs, the energy-regulating computer and other energy savers have enabled the university to use about 5 percent less fuel.

"This is a really important savings when you consider how much fuel costs have risen," Thalken said. "We pay 65 cents a gallon for heating oil. In 1973, before the oil embargo, we paid 10 cents a gallon. It's the same way with natural gas. Now it's $3.31 per million BTU's, while in 1973 or 1974 it was only 48 cents per million BTU's."

UNL has applied for a grant from the Department of Energy to make more energy-saving improvements, Thalken said.

The residence halls are also taking numerous energy-saving measures, said Douglas Zatechka, UNL director of housing. Energy conservation measures taken over the last four years have had considerable results, amounting to around $165,000, or $33 per resident. Zatechka said every residence hall contract would have had $33 added to the bill if the energy saving steps had not been taken.

Conservation steps

Zatechka said the following steps are part of the housing energy conservation program:

All incandescent lighting has been or will be changed to energy-efficient flourescent lighting.

New roofing on all the residence halls will be finished by the middle of next year.

"Roughly 70 percent of all heat loss from the dorms goes through the roof," Zatechka said, because very little insulation was used when the roofs were finished.

"The window frames in Neihardt Hall will be replaced with metal ones next year.

"They're charming," Zatechka said referring to the old windows, "but they're an energy disaster."

The Christmas shutdown of residence halls has saved energy over the last three years, Zatechka said.

New shower heads have reduced the flow of water from eight to 10 gallons a minute to 2.1 gallons a minute.

"It makes a big difference," Zatechka said. "For instance, we're able to use just one major water heater in Abel instead of two."

Saving limitations

Zatechka said there are limitations to the energy savings which can be made in the residence halls. For example, he said, thermal windows would save large amounts of energy but would be too expensive to install at this time.

"We've done about all we can do in the easy-to-do and/or inexpensive category," he said.

The UNL Office of Housing has received grant money from the U.S. Department of Energy for energy-saving measures, and will try to get more money for improvements, Zatechka said.

Zatechka advised students who live in residence halls to try to be as conscientious as possible in conserving energy by turning off lights and stereos whenever they're not being used. He said some sacrifices are necessary.

"We're turning on the air conditioning later in the spring and turning it off earlier in the fall," Zatechka said. "We're turning down the heater. It's the same in my own house. I would like to set the thermostat at 75; and be extremely warm, but as fuel prices rise, we have to do more of these kinds of things."

Residence halls study UNL parking shortage

A standing committee formed out of the unified government of Harper-Schramm-Smith residence halls, has started to attack its first issue – lack of parking.

Bill Flack, Harper president and chairman of the committee, said the committee is "responding to residents' complaints."

Residents of Harper-Schramm-Smith sometimes park in the Area 3 lot at 14th and New Hampshire streets. To get to the lot, residents must go by a field surrounded by barbed wire and go between two buildings. Residents are concerned because the area they must walk in cannot clearly be seen from the street.

Flack said the area the residents must walk through is concealed, and could encourage assaults on residents.

"The committee needs some way to protect them (residents) from attacks," Flack said.

Flack said he met with the UNL Parking Advisory Committee. At that meeting he said he proposed some possibilities that the PAC might consider to remedy the problem. One possibility was to exchange Area 23, at 14th and Avery streets, a lot for commuter students, with Area 3. A second plan would change hours of parking enforcement in the lot.

A third alternative would change part of Area 23 to Area 3. A fourth remedy is to improve lighting in the area.

Flack said the third proposal might be misinterpreted.

"Our committee has never suggested that Area 23 be limited to Harper-Schramm-Smith residents, and not to commuter students," Flack said. That would be a "dubious solution," he said.

Flack said that would be an inconvenience to residents because they would have to cross the railroad tracks, which might cause time problems, and accidents.

Flack said he feels the residents have "quite a valid objection," and some of the PAC members have been sympathetic.

Gordon Scholz, PAC committee chairman, said the committee listened to Flack at the last meeting and discussed the problem.

"We will, in the future, put this on our agenda and try to make a firm recommendation to the vice chancellor (for business and finance)," Scholz said. "These issues are serious issues and need to be discussed."

Flack said the plan to resolve the issue is "still in the very early stages. This is not an easy problem to solve, I'm convinced," he said.