

ON TRACK

Vol. 3, No. 1 - June 2007

SARGENT

C O R P O R A T I O N

Excellence for Generations.

A person is seen from the side, looking at a computer monitor. The monitor displays a 3D simulation of a yellow heavy-duty vehicle, possibly a wheel loader or excavator, in a construction or mining environment. The person's hand is on a computer mouse. The background is a wall with vertical blinds.

Training the next generation of heavy equipment operators

... See pp. 4-6

Inside this issue:

Sargent Corp. named BRCC 'Business of the Year' p. 3

Sonic-powered pile driver used in Calais p. 8

Employees urged to 'Dig in for Health' p. 9

Ellsworth Lowe's on fast track..... pp. 10-11

COVER PHOTO: Shane Marquis, a student in the Heavy Equipment Operator program at the United Technologies Center in Bangor, practices operating an excavator using simulation software purchased from a Montreal company.

Sargent Corp. aids UTC in developing training

If the construction industry is going to prosper in Maine, it will have to find new people to replace the employees who have been operating excavators, bulldozers, and other pieces of heavy equipment for the past 30 years.

Training that next generation of operators is the goal of a new program that started this spring at the United Technologies Center, a regional vocational/technical high school in Bangor, with help from Sargent Corporation.

The Heavy Equipment Operation program is being taught by John Milligan, a Sargent Corporation employee who works for UTC. He uses a combination of classroom work, computer simulation, and hands-on mechanical operation opportunities.

A total of 14 students are taking the program, seven in the morning and seven in the afternoon.

Next year, the program will expand to a full-year course and will be offered at both Level I (first year) and Level II (second year).

Herb R. Sargent, president of Sargent Corporation, said the program is needed because more and more heavy equipment operators are reaching the age where they can consider retirement.

"Herb E. Sargent long recognized that good people are the company's greatest

assets, and the tenure of our employees today is evidence of that mutual respect and loyalty," Herb said. "This training program will provide an opportunity for people to gain exposure to our type of construction. We want to expand the opportunities that our long-time employees have enjoyed."

UTC director Greg Miller points out that the construction industry is one of the fastest growing industries in Maine, and it pays good wages.

"For young people who want to stay in Maine, earn a living wage, and have a career where they can retire with dignity, construction is a great opportunity," Greg says.

Greg credited Sargent Corporation with providing "the inspiration, motivation, and funding" for implementing the Heavy Equipment Operation program at UTC.

"Herb came for a tour of the UTC building with Lynne Churchill [human resources administrator for Sargent Corp.] during the middle of last year, and he said the industry needed to increase the supply of young operators," Greg said. "Herb



Michael Soule excavates a trench with the simulator.

offered to do what he could to support the initiation, creation, and operation of a heavy equipment operation program. He thought it would benefit the state, the community, and the industry—and the students, of course."

The next step was for Greg, Lynne, Jason Frederick (training administrator at Sargent) and the UTC board of directors to sit down and brainstorm how this could be accomplished.

They researched several other programs offered around the country, including the secondary program at Washington County Community College.

Ultimately, they developed a unique combination of academics, simulation, and "hands-on" opportunities.

Greg said the breakthrough came when they learned about a series of simulation programs that had been developed by a company called Simlog in Montreal.

"We flew up with Herb and looked at the software," Greg said. "Herb was quite impressed, as we all were."

Sargent donated the Simlog excavator software, and then UTC acquired a few surplus excavator cabs to make the experience more realistic. The software puts the students at the controls of a modern hydraulic excavator at a typical construction site. Using a joystick similar to those used in real excavators, the students can work through



The afternoon Heavy Equipment Operator class at UTC gets to practice with some real equipment on loan from Sargent, Milton Cat, and R. C. Hazelton. From left: Nick Pomeroy, Daniel McPhee, Taylor Bishop, Shawn Bloodsworth, Gregory Getchell, Sumner Sewall, and Kyle Demmons.

program for heavy equipment operators

twelve simulation modules of increasing difficulty—from the basics of boom and carrier operation to trenching and truck loading.

In addition to giving the students practice in using the joystick, the simulation software measures how well they do in over 15 different ways (execution time, bucket fill, stick angle, trenching precision, etc.), and the simulation results are automatically saved for later review and to track student progress.

The UTC students also complete the OSHA 30-hour training program and learn the basics of reading construction drawings and working at a job site.

“Safety is paramount,” says Greg. “We want to start the students off on the right foot. We want to make sure they know that safety is something they have to live with and practice every single day.”

At the end of the course, the students will “graduate” from the simulators to some “hands on” operating experience out in the field.

During the week after Memorial Day, the students were scheduled to redo one of the parking lots at UTC, using two small excavators and a bulldozer provided by Sargent Corporation, Milton Cat, and R. C. Hazelton.

Although the program started in January this year, it will be a full-year program next year.

Greg said Heavy Equipment Operation was always seen as a full-year program, but it was started in January this year because “we didn’t want to wait until September.”

“Every year, a cycle of students passes through UTC, and if we had waited until September, we would have denied the opportunity to this year’s students,” Greg said. “Also, starting in mid-year gave us a chance to use this as a ‘pilot’ year. After all, this is a new program—there aren’t any programs in reasonable travel distance that are doing what we’re doing. We couldn’t take a model and tweak it a little bit—this was a model that Sargent Corporation and UTC developed on our own.”

When Heavy Equipment Operation expands to a full year, students will spend



Instructor John Milligan observes the morning class on the simulators.



Daniel McPhee operates an excavator as students redo a portion of the UTC parking lot.

time studying maintenance before they go into operations.

“If you’re going to be handed a \$200,000 piece of equipment, it’s important to understand the mechanical and service aspects of that piece of equipment,” says Greg. “These aren’t M-1 Abrams tanks. They’re very expensive pieces of equipment, and they need to be treated with that level of respect.”

In addition, Greg points out that in many small businesses, the operator has to do the daily lubrication and maintenance, and listen for sounds that are abnormal, so they can alert the tech rep before a \$1,000 problem becomes a \$10,000 problem.

It also helps students become more versatile—and hence, more employable.

“If there’s a slow period, many companies will have employees perform service or maintenance if they’re qualified,” Greg says.

UTC will also offer Heavy Equipment Operation as a Level II (second year) course next fall. Level II students will learn more advanced techniques and efficiencies, along with basic surveying and additional information about job-site responsibilities for layout and safety.

Jason Frederick, training administrator for Sargent Corporation, says the company
(Please turn to next page)

UTC program

(Continued from preceding page)

and UTC are not under the illusion that students will come out of UTC as fully-qualified heavy equipment operators, even after two years, but he says the training is still worthwhile.

“Students who complete the UTC program will be more familiar with the equipment, and they’ll have a better idea of what the industry’s expectations are, particularly with respect to safety,” Jason says. “They spend a lot of time on safety, and it’s a great idea to have that instilled in them before they get out in the field.”

Jason says Sargent and UTC are also looking at extending the heavy equipment operations course to the adult education program at UTC to provide opportunities to workers who are retraining to a new field.

A travel module is also available to take to trade shows to provide additional exposure to students who aren’t attending UTC.

“We’d like more people to realize that construction is an option,” says Jason.

The UTC program is the only heavy

equipment operation program currently offered at the high school level in Maine. Washington County Community College offers an associate’s degree program in heavy equipment operation. The WCCC students use actual equipment and have a gravel pit in Moosehorn National Wildlife Refuge. In addition to classroom work, they operate a screening plant and build roads.

* * *

This summer, Sargent is offering summer employment as laborers to two students in the UTC Heavy Equipment Operation program.

“It’s a great opportunity for the students,” says instructor John Milligan. “It’s also an important part of the course—students who want to apply for the positions have to create a resume, and go through an interview process.”

Herb said Sargent Corporation and UTC are very excited about the implementation of the heavy equipment program.

“The program has made a lot of progress this spring,” he said. “We’re looking forward to developing and supporting it in the future.”

Right: Shane Marquis operates an excavator during skills training. He had to use the excavator bucket to place a pail of water on a small board without spilling the water.

