

IUOE Local 178 Sees Vortex Simulator as a Better Learning Tool for Apprenticeship Program



The International Union of Operating Engineers Local 178 has long been an advocate of incorporating simulators in its apprenticeship programs.

When its previous simulator was about 10 years old, the Dallas-Fort Worth local union decided to upgrade its system in fall 2016. It soon discovered the Vortex simulator was lightyears beyond its previous system.

“Vortex was the newest technology on the market, and it surpassed everyone else,” said Mack Bennett, business manager for Local 178. The interaction, the graphics, and the real feel of the system during operation were all features that drew him to the product.

The union bought two Vortex simulators to meet the different needs of the organization. Housed in a trailer, a three-screen

mobile unit can be towed to colleges and career fairs to demonstrate the system’s rough-terrain and crawler crane software.

A five-screen simulator with software for backhoe, rough-terrain, tower, and crawler crane training permanently resides at the union hall for apprentices to learn and practice their skills.

“One of the biggest selling points for me was the immersiveness of the five screens,” Bennett said.

“Instead of looking at the screen right in front of you, there are graphics on the side of you too.”

Graphics may indicate poor weather conditions, such as wind or rain, obstacles, or personnel on the site.

The Company

International Union of Operating Engineers Local 178 is a labor organization located in Fort Worth, Texas. Local 178 represents crane and equipment operators in 129 counties in the state.

The Situation

Local 178 wanted to replace an older training simulator with a newer technology to provide a more realistic training experience for its apprenticeship program.

The Solution

Replace the older simulator with two immersive systems with enhanced graphics and interaction to train apprentices and journeyman operations, market Local 178’s apprenticeship program, and recruit new members.

Training in a Controlled Environment

All Local 178 apprentices operate the simulator while they are in the program. Bennett noted there are several safety benefits to using the simulator. "Instead of putting first-year apprentices on live equipment and talking to them through a radio, we can stand beside them and explain the situations," he said. "It is a controlled environment and a better learning tool."

Not only do the apprentices stay safe, but it also keeps the local's cranes out of harm's way. "Some of the cranes we have paid a half-million dollars for, and we don't need someone hurt or the equipment or building damaged," he said.

At the union hall, Bennett said non-members will come into office, looking for opportunities to run a tower crane or backhoe. "Instead of tying up personnel from our training sites, we can set up a scenario on the simulator and really see their skills," Bennett said.



"It is a controlled environment and a better learning tool."

Typically, the simulator is in use twice a month when apprenticeship classes are in session. On rainy days, students take full advantage of the simulator at the union hall. During one rainy week this fall, the simulator ran up to 60 hours.

In a month, the Vortex simulator is used about 120 hours more than the cranes in the yard. "Our first- and second-year apprentices are kept on the simulator because we want them to be comfortable, and we also want to be comfortable," he said. "You can stand beside the seat and let the apprentice know that the jib is too far out, or you can tell them the reason why they are catching too much drift. You can actually talk to them without an engine blowing and going."

A benefit to the Vortex simulator is the apprentice can be recorded and scored as he uses the unit. The user will receive an ID, and trainers can see if the apprentice has improved over time.

"If someone has trouble controlling the load or has too much of a pendulum swing, you can see if he learns to control the load better," he said. "It tracks everything you do."



When an operator passes the NOCCCO exams and becomes a certified operator, Bennett uses that as a measurement of the simulator training's success. "There is an NOCCCO course in the software, and apprentices can practice on it before taking the practical test," he said. "With seat time on the sim, they are a little more proficient when they take the actual practical." He added this practice is also a cost savings for the union, which has to pay each time a member takes the practical exam.

Overall, Local 178's apprentices have sharpened their skills through training with simulators. Even some journeyman who want to train on another piece of equipment will use the Vortex simulator for crossover training. "We may have a crawler crane operator run a tower crane to see if he likes it," he said.

For Bennett, the Vortex simulator has not only been a winner for Local 178, but he also commends CM Labs on its technical support. "We had trouble setting up the mobile simulator, and you can send an email and they will call you right away to work through it," he said. "That's something that has really impressed me."



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