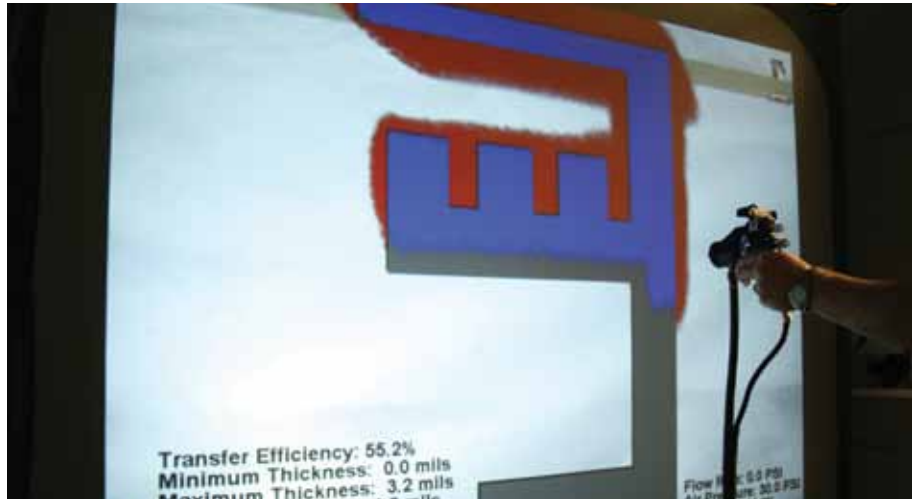


Applicators Master Spray Coating Techniques with Virtual Reality System

By Kathy Riggs Larsen, MP StaffWriter

Taking a cue from other industries that use simulators for training, staff members with the Iowa Waste Reduction Center (IWRC), a service of the University of Northern Iowa (Cedar Falls, Iowa), have developed virtual spray painting application technology that uses computer simulation and virtual reality. Settings and adjustments made by the users to the spray equipment in the virtual system generate the same results that are experienced in the field. This virtual spray painting application technology will be used in a new, two-day training course recently developed by IWRC and NACE International. The course, Virtual Reality Coating Applicator Training, made its debut in November at the NACE



The two-dimensional virtual spray painting application technology features a fully functional HVLP spray gun, a projector, and a rear-projection screen that displays the image of the virtual part as it's being coated. Photo courtesy of IWRC.

training center in Houston, Texas and is expected to benefit people new to the coating application field as well

as seasoned applicators who want to hone their skills.

The two-dimensional virtual system features paint model software, a fully functional pressure feed high-volume, low-pressure (HVLP) air spray gun, a projector, and a rear-projection screen. A tracking device is able to determine the exact position and orientation of the spray gun in relation to the virtual surface and capture every nuance of motion, which is sent to the computer. The user, who can move around freely in front of the screen, has full control over the spray gun's adjustments for fluid flow, fan pattern, air pressure, and trigger variability. When the operator pulls back on the spray gun trigger, a signal sends the settings from the spray gun to the computer.

The virtual reality software program then processes all data to determine the spray pattern distribution, wet mil accumulation, transfer efficiency, and the amount of material sprayed, and sends the information to the projector, which displays it

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Penny Allds, a NACE International Coating Inspector with J&S Utility Consultants in Pleasant Shade, Tennessee, is the winner of this issue's drawing for a free Coating Inspector Program (CIP) course. "I spent most of my adolescence and high school years in a full-service marina, where I was exposed to surface preparation and painting on many substrates," she says. "In 1999, after leaving regulatory work, I started J&S Utility Consultants, which provides dry and wet detailed inspections on water storage tanks." Allds is certified to CIP Level 2 and plans to take Level 3 Peer Review with her free course.

How can you enter the drawing to win a free CIP course?

Simply send an e-mail message to inspectthis@nace.org, and mention that you saw this article. To be eligible, you must have completed NACE CIP Level 1 at least 12 months ago, and your certification must be active. The free CIP course (Level 2 or Level 3 Peer Review) must be taken within one year of winning the drawing.

Please note that this drawing only applies to CIP courses and not other NACE course offerings. The prize is transferrable but may not be sold. If the prize is transferred, the recipient must meet the same criteria as the winner. ●

as a virtual image of the part being spray painted in real time on the rear-projection screen. Trainees can learn and master various spray coating application techniques without the time, material costs, waste, and environmental impact associated with setting up a paint booth for instruction and practice.

"This is a great learning tool. Students will get a realistic feel of applying coatings in a controlled environment, and it will help train them to be more efficient in the transfer of coatings from the bucket to the substrate," says Terrell Nelson, coating professional with Sherwin-Williams Co. Protective Coatings Division, a NACE-certified Level 1, 2, and 3—Peer Review Coating Inspector, and an instructor for the NACE Virtual Reality Coating Applicator Training course. "Most conventional spray guns are set up very similar to the spray gun that is used in this course. It will help students experience the settings required for applying various coatings and make them aware of what they need to do in the field to get better performance out of their equipment."

"The technology isn't meant to be a substitute for actual hands-on training experience," says Joe Bolick, IWRC process research reduction and education specialist. "It's a supplement to the training that takes place in the paint booth. Because users have already learned the muscle mechanics for operating the spray gun and have visualized how the paint is applied to the part, the learning curve is much shorter and the time spent training in the actual spray booth goes down dramatically."

For more information on the Virtual Reality Coating Applicator Training course, visit the NACE Web site at www.nace.org/education, e-mail firstservice@nace.org, or call +1 281-228-6223. ●