

Training under way for new nuclear plant operators(2)

RAY HENRY - Associated Press - Associated Press

Utility companies are preparing a new wave of workers to run first-of-their-kind nuclear plants, a process certain to influence how workers are trained on the new technology for decades to come.

Southern Co. in Georgia and SCANA Corp. in South Carolina are the first to prepare new workers to run a recently approved reactor design never before built in the United States. Training like it will be repeated over the decades-long lifetime of those plants and at other new ones that may share the technology in years to come.

Both power companies are building pairs of Westinghouse Electric Corp. AP1000 reactors at Plant Vogtle near Augusta and SCANA Corp.'s Summer Nuclear Station northwest of Columbia, S.C. While the nuclear industry had earlier proposed a larger building campaign, low natural gas prices coupled with uncertainty after last year's disaster at a Japanese nuclear plant have scaled back those ambitions.

One other utility, the Tennessee Valley Authority, is working to finish a long-mothballed reactor at its Watts Bar plant.

"This is where nuclear power is going," said Jason Hayes, who is training to become a senior reactor operator for the new reactors at Plant Vogtle. He left a job as a control room supervisor at a nuclear plant in Mississippi because he wanted to tie his career to the emerging technology. "If there is going to be a nuclear power industry, I figured I'd go to where it's going to be."

Near the construction site in Georgia, Southern Co. trainees practice in a simulated control room testing whether they understand the design and can respond to breakdowns or a crisis. More than 100 people are currently in the company's training pipeline. The first of the new reactors at Plant Vogtle is expected to come online in 2016 or 2017.

At a quick glance, the rows of computer terminals that will run the AP1000 seem nondescript, almost resembling a computerized financial trading floor more than the industrial-looking control rooms of existing nuclear reactors. A group of four trainees and an instructor were stationed behind those terminals and faced an even-larger wall of large screens that spit out information on alarms and key details about the plant's operation. It's a big change from existing control rooms that use panels of hand switches and analog meters.

"The biggest difference is the digital aspect of it," said Greg Crosby, a training coordinator for Southern Co. "We're almost totally digital."

Training under way for new nuclear plant operators(2)

Published on Chem.Info (<http://www.chem.info>)

Plant operators must pass written exams and lengthy sessions in simulated control rooms before the U.S. Nuclear Regulatory Commission will certify them. Anticipating the need to license a new wave of operators, the NRC added about 10 people to its licensing staff and is training its own regulators on the new reactor system.

Digital controls can make some tasks easier, but research shows they can also reduce essential communication between the team running a reactor, said Mark Franke, one of two NRC officials responsible for operator licensing in the southeast. Less communication can undermine the command system in a control room.

"It's easy for one guy to start taking more control than he should," Franke said. "He may start making decisions, and the senior operator may be watching him instead of directing him."

To prevent that problem, Franke said, utilities have rewritten some of their procedures to make sure the convenience of digital controls does not erode control room authority. None of the trainees have yet taken NRC tests specific to the AP1000, though the tests will include demonstrating they can shut down the reactor using manual controls if the computer system fails, Franke said.

Reactor operators say digital controls also bring advantages. Instead of manually retrieving printed copies of plant procedures, the plant's software system anticipates which actions may be necessary and retrieve a digital copy of those instructions for the operators to review. Those running the reactor can see critical information on a single screen, rather than walking from control panel to control panel to gather it.

"That makes it a lot easier," said Hayes, though he added that it is better for humans to identify and fix problems before automated systems kick in.

"You want to perform the action before the actual plant does the action, have the human in control so you're driving the plant, the plant's not driving you," he said.

Like elsewhere in the nuclear industry, many of the candidates in training have experience running the nuclear reactors on U.S. Navy ships. After leaving the Navy, Daniel Ramirez worked as an engineer at a startup manufacturing facility, then came to Southern Co. because he wanted more experience building a facility from the ground up.

"That's one of the big draws," he said, "new technology."

Follow Ray Henry at <http://twitter.com/rhenryAP>.

Source URL (retrieved on 04/19/2014 - 11:47pm):

Training under way for new nuclear plant operators(2)

Published on Chem.Info (<http://www.chem.info>)

<http://www.chem.info/news/2012/12/training-under-way-new-nuclear-plant-operators2>