

THE NUCLEAR NEWS INTERVIEW

Tim Borgen: Monticello's outage training center

Tim Borgen is the general training supervisor at Xcel Energy's Monticello nuclear power plant, in Monticello, Minn., a 600-MWe General Electric boiling water reactor that started commercial operation in June 1971.

Borgen, who has been with Xcel for 10 years, is a senior reactor operator license holder for the company's two-unit Prairie Island nuclear plant, in Welch, Minn. He has been in his current position for just under a year.

The Monticello plant will undergo two outages in 2011. The first, a refueling outage now under way, will ready the plant for its fall outage, during which work—such as replacing the reactor feed pumps and tying in a 13.8-kV transmission system—will be done to support an extended power uprate that will boost the reactor's generating capacity to 671 MWe.

To get ready for the outages, Monticello's management looked at its methods for training the contracted workers who would be brought on site for the refueling and maintenance work. Previously, outage training had been done at the Monticello site or in leased space at a local school. Neither of those options, however, was adequate for the volume of workers—as many as 2500—who would be brought to Monticello for the 2011 outages.

The hard economic times had hit a once busy car dealership in the neighboring town of Monticello, and it went out of business. The large lot and facility left behind when the car dealer vacated the premises turned out to be just what the plant's training department was looking for. After extensive refurbishing, the building was reopened on January 3, 2011, as the Monticello nuclear generating plant's training center.

Borgen, who is charged with directing activities at the new training center, talked about the new facility with Rick Michal, *NN* senior editor.

Xcel Energy converted a shuttered car dealership into a training center for contract outage workers.



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Monticello's training center is located in what used to be a car dealership. How did that happen?

The concept of in-processing outage workers somewhere other than our normal plant facilities isn't new to us. We had done something similar on a smaller scale in the past at a local school. For 2011, however, we have two outages—one in the spring and another in the fall. We're looking at in-processing about 2500 workers—ironworkers, pipe fitters, boilermakers, laborers, and the whole gamut of construction crafts that are needed to successfully complete maintenance and refueling outages. We recognized early on that a unique solution was needed to deal with the large number of people we'd be bringing in, and we decided to look at facilities in the area that might accommodate that volume of workers.

Two things were needed to allow us to bring in 2500 people: a large building and a lot of parking spaces. A car dealership has both. The building we selected for the training center consists of 50 000 square feet under one roof. Like any large car dealership, it had a showroom area, a parts area, and a very large service bay. We've used almost every square inch of the building for classroom space or another necessary function. It was an unfortunate circumstance for the community when the car dealership closed down, but it was a great opportunity for us to have our needs met. And it certainly is an economic boost for the Monticello area.

What kind of prep work did you do to get the building in the shape you wanted it, and how long did it take?

The building had undergone a rapid exit by its previous owner and a subsequent auction, and repairs and a major cleanup were required to make it safe and usable. In terms of preparatory work, the water, heating, plumbing, and fire protection systems all needed to be replaced.

We also needed to modify and insulate garage and storage spaces, run electrical wiring to support more than 200 computer



The Monticello nuclear plant's training center (Photos: Pat Thompson/Xcel Energy Monticello)

workstations, install a wireless LAN [local area network] to connect the building to the company network, fix the elevator, change the locks, and set up drug testing facilities. And we had to bring in hundreds of pieces of furniture, establish a work flow in the building, and reach out to local restaurants.

We started the refurbishment work the first week of December, and we were fully open for business in early January. What is truly amazing is the quality of the work done. If you didn't know otherwise, the building looks like it had always been this way. All systems are running well—zero rework.

In addition to training the contracted outage workers, do you do security clearances at the training center?

Yes. What makes the training center unique is that we take a holistic approach to its structure. In one area we do security background checks, access-authorization activities, and those types of things. In a separate area, we have medical personnel set up for screenings and drug tests. Another area is reserved for general access training, such as for radiation workers. And a fourth area that includes the car dealership's service bays is where we do specialty craft training, such as aerial lifts, using a large lifting and handling rig. We also have about 200 computers set up throughout the building. With the volume that we're dealing with, not a single computer goes unused for any length of time. In addition, the training center is climate controlled. In the middle of winter in Minnesota, the opportunity to do the type of training that we do—such as rig lifts—in a warm, controlled environment is greatly appreciated by staff and workers alike.

How many workers can the center accommodate at any one time?

For in-processing, the planned maximum daily capacity is 100 new workers. At any given time, however, there might be 300 workers in the building—100 being in-



Contract outage workers take part in computer-based training.

processed and 200 being trained in some capacity—plus our staff. The workers arrive at 7 a.m. Monday through Friday, and they typically leave for the day around 3:30 p.m. Of course, there are exceptions where we do additional training into the evening hours. The staff is on hand to process and train all of these people—there is a lot of administrative work that needs to be done.

How long is the training duration for a worker?

That would depend on what kind of training the worker is taking part in. Looking at rough numbers, however, our goal is to have the in-processing for a veteran worker be completed inside of 12 hours. But for a contractor who is new to nuclear, we want the badging and in-processing to be completed within five days, or 40 hours. Each worker will be in the building longer than that, however, based on the safeguards and specialty training that he or she has to attend as well.

Do you have equipment mock-ups that the workers practice on?

In some of the bays that were once used for such things as car preparation and washing, we now have human-performance activities going on. We brought in some plant equipment and mock-ups, and the workers practice on them and discuss human-performance behaviors. They try to identify issues that could be encountered on the job so that when they actually get to the plant, potential problems have already been



Training instructor Al Knauss conducts a safety-harness demonstration using a mannequin.



Krista Conlan (left) and Karen Horgen, of Monticello's training staff, in-process outage workers before sending them to training.



A training mannequin stands dressed and ready in the foreign materials extraction lab.

identified, and safety can be maximized.

We've divided the large service bay into job areas for specific work disciplines and equipped them with machinery so that the workers can practice their jobs. We want to make sure that we integrate as much hands-on learning as we can into the training. For adult learners, that is the most effective learning environment.

How did you handle training prior to having such a large facility?

In the past, we did some training at a local school, but there are some things we do here that we just couldn't have done there because of space limitations. In fact, at the Monticello plant site, we used to conduct aerial lifts in the parking lot of the training center because that was the only place there was space enough to do it. It wasn't ideal because we were a slave to the weather, so being in this new training center certainly makes things more reliable and predictable in that respect. And, regarding the volume of workers, we couldn't handle nearly the amount that we can here.

Is the new training center a permanent site for Monticello?

We're leasing the facility, and I don't have any knowledge that we will make this a permanent arrangement. The nuclear business, however, is one in which, if you suc-



The training center's lunchroom

ceed at something, you're going to study it and see if it's something you want to do in the future. But once the lease expires, I expect that we'll move on from this facility. In the meantime, we have the summer months between outages during which we fully intend to use this building as much as we can. We put a lot of energy into making it an effective training environment.

Could the training center be used for the company's Prairie Island plant?

Logistics would make it difficult to use it for Prairie Island, as that plant is about 90

miles from Monticello. Right now and for the foreseeable future, the training center is to accommodate the Monticello outage activities in 2011.

What about the costs associated with using an off-site training center as opposed to an on-site one?

Are there costs involved in refurbishing a building and putting equipment in it? There certainly are. But we have to weigh those against what it would cost to in-process 2500 workers under a more traditional format. If our training center could han-

dle only 100 workers per week, as opposed to a facility like this, where we can handle 500 workers per week, it would take five times as long to get all of our workers in-processed, and, of course, there would be a big cost associated with that. We have tried to make our training operation as cost-efficient as possible. In order to do that, we need the capacity to train a large volume of workers in a small window of time. In the end, it's good for our customers, because we're doing things in the most cost-efficient manner, and it's good for the workers, because they receive their training right before they go into the plant to begin applying their skills.

Are there any lessons learned from using this training center?

One of the things I take away is that when I stepped into this project in November 2010, it was difficult for me to imagine a car dealership being turned into a training center. But now that it's come to fruition, we have learned that it is an effective model for handling large volumes of workers prior to an outage. It's one of the best fits that I've seen. I recently attended the CONTE meeting [Conference on Nuclear Training and Education, held February 6–9 in Jacksonville, Fla.]. A lot of conversation happens on the side at industry meetings. When training managers and training folks



A view of the training center's dressout area

heard that we turned a car dealership into a training center, there was a lot of buzz. I was asked if our decision to locate in a large center devoted strictly to in-processing and training was industry-leading, and I replied, "I can't tell you that, but I can tell you that there is a lot of interest in it." That tells me that it's not something that is done very often in this business. Maybe it's going to start happening more.

Do you have any closing thoughts?

I would say that what I am most proud of, aside from the volume of workers we handle and the quality of the training we do here, is that this place has had a real eco-

nommic impact on the community. In our industry, we hear a lot of negative press about radiation risks. But there is not a lot about the positive impacts we have on communities. Since we moved into the training center, local restaurants are selling their food to folks who work in this building. Girl Scouts have sold cookies here. I'm really proud of this place and the kind of economic punch it has given the city of Monticello and the region. The fact that we could use a facility that had closed because of economic hard times, revitalize it, and turn it into something like this—I've never heard of anything like that in our business. I think it's great, and I am very proud. ■