



HURON RESOLVE

A multi-jurisdictional exercise tests Bruce Power's response to a potentially calamitous event

By Renée Francoeur

An earthquake hit Tiverton, Ont. this past October, where nuclear generator Bruce Power is located, leading to a radiological emergency.

More than 500 people from across 30 municipal, provincial and federal organizations stepped up to the plate to keep the public safe and informed. And Bruce Power says it was a success, noting “all objectives were met.”

Didn't hear about it? Don't worry — it was just a drill.

Bruce Power, which provides about 30 per cent of Ontario's power, is home to eight CANDU reactors and is required to conduct an emergency exercise at least once every three years, involving municipal, regional and provincial off-site authorities.

The most recent of these exercises, dubbed “Huron Resolve,” involved an earthquake scenario that impacted the reactors and spanned five days this past fall. A similar drill, Huron Challenge, took place in 2012 and simulated a disaster involving a tornado.

“Due to the design of our CANDU reactors, we have to really stretch what our initiating events are,” says Stephanie Murray, emergency management specialist at Bruce Power. “So, even

though [an earthquake] is highly unlikely, we still have to go through and build the scenario so we can test all aspects of our emergency response program and have that regular training to, again, make sure we are prepared in every way.”

It was also a chance to challenge the teams, she says, as the standard loss-of-coolant accident is the more traditional scenario they practise.

Emergency preparedness is a strength in the nuclear industry, Murray adds, and that means exercises like Huron Resolve are taken extremely seriously.

“We do these exercises, we have all of these objectives, we do the lead-up and conduct the drill with all our partners and agencies, but that's only one part of it,” she notes. “The next big part is looking at the lessons learned. Our full After Action Review captures all of that and is aimed at the continuous improvement of our collective capability to respond to an emergency.”

Plenty of players

Day One of Huron Resolve saw the on-call emergency response organization activated and the emergency management centre (EMC) declared operational. As the nucleus, it provided the command and control for all site activities as well as support to the station and assumed responsibility for

communications, co-ordination and planning with external stakeholders, like the province.

Not only were Bruce Power and numerous provincial ministries (including the Office of the Fire Marshall and Emergency Management) co-ordinating efforts, but local municipalities — such as Kincardine, Saugeen Shores, Port Elgin and County of Bruce — were also conducting their own emergency response strategies. The Canadian Red Cross set up a casualty management centre, South Bruce Grey Health Centre tested its internal emergency response plan coincidentally and St. John's Ambulance and OPP were also involved in communications.

Huron Resolve played out similar to a military exercise, when it came to scale and intensity, says Douglas Grant, senior emergency management analyst with Calian, the company that helped Bruce Power design and orchestrate Huron Resolve.

“This was one of the few opportunities where all these diverse organizations get to come together and practice their skills and realize they need to co-ordinate with one another. It's no longer sufficient to say one organization will practice in isolation,” Grant says.

Huron Resolve stands apart from

previous exercises because of all the outside communication it entailed, Murray adds.

“Bruce Power was dealing with their part of the scenario on site and we were dealing with the offsite consequences. There was a strong connection between the two,” says Dave Nodwell, deputy chief with Ontario’s Office of the Fire Marshal and Emergency Management. “Our main objective was to protect the public from any undesirable impacts of exposure to radiation.”

Nodwell says Bruce Power provided the province, through the provincial emergency operations centre, with data related to plant conditions and radiological monitoring and “with that data we determined what protective actions would be required.”

The province calls the shots when it comes to evacuations and the banning of local food and water, etc., Nodwell explains.

“This was a very different exercise than Huron Challenge, where there was not a radiological release, just a hypothetical release,” he adds. “One of the recommendations that came out of Huron Challenge was that the next exercise needed to specifically focus on a nuclear release and dealing with the mechanics of that and implementing protective actions.”

The exercise went “very well” and as expected, according to Nodwell, noting an evacuation order was issued for a distance of 10 kilometres out.

“This means there was a reception centre where evacuees could register and potentially be screened for radiation. KI (potassium iodide) pills were ordered in the area — though they had been pre-distributed to everyone in the primary zone anyways,” he notes.

Students from Kincardine and District Secondary School, an Owen Sound police foundations course and emergency municipal employees also joined the efforts, volunteering to role-play.

Side events with live play, such as people who became contaminated and a transportation emergency response incident, were incorporated to “keep people busy and create more challenges for our emergency management centre,” Murray notes.

Out of these, it was the mock press conference exercise, held at Kincardine Town Hall, that impressed Grant.

“Members of Bruce Power, the province and the municipality had to respond to questions from reporters who were actors but who still went in-depth in their questions. They weren’t softball questions,” he assures. “It really gave the sense that if there was a major emergency, people would be upset and demanding information. It was so realistic that I think everyone involved got a lot out of it.”

Through feedback afterwards, Grant says many who participated were surprised at how realistic and in-depth each event was.

“This wasn’t a case of sitting down in the boardroom, listening,” he

explains. “And that was refreshing to a lot of people involved.”

Security on site

Security is a big element in protecting the site, Murray notes, and strategies such as the joint traffic control plan involved co-ordination between the security advisor at Bruce Power’s EMC and the point of contact at the provincial emergency operations centre, as well as OPP and the Ministry of Transportation.

“We were actually able to have checkpoints where vehicles went through; there was live play and the centres were feeding into these checkpoints,” Murray explains.

The checkpoints — many along Hwy 21 — served as a means of quasi-security, Nodwell adds, and functioned to keep traffic flowing but also prevented vehicles from going into the zone under evacuation. Security support was also needed at the EMC when it came to access control, Murray adds.

“On Day 4, because of the venting action, we activated our alternate EMC in Kincardine. One of security’s role there, in terms of support, was to help us set up that facility so there is minimal impact in response times while we’re transition there.”

Challenges

It took 18 months to tie everything together, from building the plans, liaising with the province to find the right time and training stakeholders with symposiums and tabletops.

“It’s definitely an investment,” Murray says. “We’ve built this investment into our operating budget moving forward.”

She says they made sure to stretch the dollars to maximize the experience, such as leveraging project funding for video footage of the exercise to share with offsite stakeholders.

“It’s a lot of work, but it’s worth it,” she adds.

When you have such a massive scenario and so many diverse stakeholders involved, it can be difficult to make sure “everyone is pushing in same direction,” says Grant. “It can really be as simple as you give a briefing and



A Bruce Power staff member goes over plans and data at the emergency management centre.

5 DAYS AT BRUCE POWER

DAY 1

At 4:18 p.m., the on-call emergency response organization was activated and the emergency management centre (EMC) was declared operational.

DAY 2

Emergency management response in “full swing,” local media centre activated for regular briefings. Separate transportation event related to radiological materials occurs offsite, involving deployment of transportation emergency response team. Bruce A declares state of emergency and activates emergency operation centre. Automated electronic accounting is initiated to ensure safety of station personnel. Shift manager works through “procedure matrix to determine categorization of the event.” Emergency shift assistant has 15 minutes to contact the provincial emergency operation centre and OPP. Emergency operation centre interfaces with emergency management centre to ensure they obtain required resources and support.

DAY 3

Arrival of technical support group to emergency management centre as scenario transitioned into severe accident. Bruce A shift manager decides to deploy emergency mitigating equipment. This is stored nearby offsite and provides redundancy to ensure power and additional cooling is available. Offsite survey team deployed to verify no offsite radiological release. Venting is looked at as an option on site. Province considers upgrading their response action level to partially activate offsite centre response. Ministries, Kincardine and Saugeen Shores advised to ready facilities. Crew continues to monitor throughout the evening.

DAY 4

Decision made overnight to relocate emergency management centre to its alternate location and province upgraded response level to full activation. Provincial emergency operational centre fully activated and Municipal Emergency Operations Centre in Kincardine fully staffed (MEOC) and co-ordinating local response, including working with joint traffic control centre. Reception evacuee centre is fully operating (Bruce Power staff provided monitoring and decontamination unit), receiving evacuees from primary zones. Emergency Workers Centre is operational, too. Emergency Information Centre provides media briefings.

DAY 5

EMC remains at alternate location and initiates transition from response focus to recovery focus. At 12 p.m. Huron Resolve was terminated.



Photo: Bruce Power

Emergency management response in “full swing” mode for Huron Resolve.

one person is out sick.”

There was also some disruption as more volunteers wanted to participate but hadn’t been counted for in the planning process.

“This exercise isn’t as simple as showing up and saying you’re ready to play,” Grant explains.

“One of the drawbacks of these types of systems has been the amount of resources required and to make sure they’re functioning effectively,” Grant says, explaining that the huge number of people involved all need to be trained adequately, clear about their roles and responsibilities.

“This is an example where Bruce Power clearly did the work and made sure the people participating in this did receive that training and development and showed there can be significant benefit if organizations are willing to put the time and energy into developing this exercise,” Murray concludes.

For Nodwell, keeping up with the demands of social media proved no easy task and “staying ahead of the message” was particularly challenging.

“Nothing went wrong per se, but, like anything challenges had to be watched and checked throughout the days,” Murray says.

Specifically, knowing when to time the venting action was a bit tricky, due to software readings.

“We’re expanding our software right now to deal with that projection code for multi-units. So it was just something that required more discussion. You see the results, you get the on the phone and work it through with provincial counterpoints.”

Takeaways

A top lesson learned was the value in having various levels of live play, as without it, the full testing capability isn’t there, Murray says.

“We’ve seen how important it is for the internal crisis management team to have the knowledge and resources to respond,” she adds. “While we have had some own involvement with this team before, this was the first time we were able to have them participate in nine briefings total during the week, which is really impressive, because we’re talking about our high-level executives.”

They prioritized, actively participated and gave the EMC commander the experience of having the boss to respond to for the first time, she adds—another difference between Huron Resolve and Huron Challenge.

The Future

The next full-scale exercise is slated for 2019, with two corporate exercises every year in between that, Murray says.

Bruce Power goes above and beyond the licensing agreement requirements, according to Grant.

“They have consistently shown they are a gold standard,” he says. “Based on the hazards, they’re willing to put the resources into making sure they’re safe and secure while other organizations are starting to realize that.”

“This exercise rigorously tested our emergency preparedness... It was an opportunity to also show the rest of the site what would happen in such a scenario,” Murray says. “Overall it went exceptionally well.” 