Canadian man warns of nuclear dangers at Bruce complex

BY JIM BLOCH
VOICE STAFF WRITER

The largest nuclear facility in the world, the Bruce Nuclear Complex, sits on the eastern shore of Lake Huron, about 90 miles north of the mouth of the St. Clair River and about 50 miles due east of the Michigan coastline.

"What keeps me up at night is a potential terrorist strike against the complex or a major nuclear accident," said Normand de la Chevrotiere, an actuary by profession, who is leading an effort to insure that the plant is safe. Chevrotiere addressed his concerns to the Binational Public Advisory Committee on the St. Clair River, which met in the St. Clair County Building on June 20. "If anything like that happens, it could be catastrophic."

Any nuclear contamination of the lake would drain toward the Blue Water Area, Chevrotiere said.

Residents in Sarnia, Port Huron, Detroit and Flint get their drinking water from Lake Huron, which in turn feeds the St. Clair River, the source of drinking water for Marysville, St. Clair, Marine City and Algonac residents, which in turn flows into Lake St. Clair and from there into hundreds of thousands of more homes.

When it comes to radioactive wastes, "we're talking about some of the most toxic industrial substances on the face of the earth," said Chevrotiere, who told BPAC that he was not anti-nuclear or anti-development, but simply a proponent of safety. "Is the level of security at the Bruce site sufficient to guard against terrorism? That's very questionable. I've taken reporters within a 100 yards of four reactors since 9/11. Is that a heightened level of security?"

Chevrotiere told a story of two stranded fisherman who walked into a decommissioned reactor building or an adjacent building and made a 911 call. Nobody ever stopped them.

"As an actuary, my job is risk assessment," he said. "Is it prudent to have this concentration of risk right here in the Great Lakes Basin, which is home to 36 million people?"

"All around the Great Lakes Basin are these potential time bombs," said Bruce Steele, a member of the Bruce Center for Energy Research and Information, in a phone interview last week.

The Bruce complex has nine nuclear reactors — four that are operating, two scheduled to come on line, two that are moth-balled, and one that is decommissioned. The complex has two dedicated low- and medium-level radioactive waste disposal sites that have documented leaks of radioactive contaminants into the groundwater, Chevrotiere said.

"Bruce also imports all of the low- and medium-level radioactive waste from all of Ontario Power Generation's facilities, a total of 21 reactors," Chevrotiere said. "It is the only facility in Canada that burns radioactive waste. It also regularly discharges radioactive contaminants, such as the radio-isotope tritium, into Lake Huron. Tritium is an isotope that mimics water and is therefore readily incorporated into the body. It is carcinogenic (cancer-causing) and mutagenic, meaning that is alters genes."

Chevrotiere is concerned that nuclear contamination is related to increased cancer rates in the region. Recent studies suggest, for example, that the incidence of childhood leukemia has increased about 40 percent around the sites of nuclear reactors at Bruce and Pickering (near Toronto, home to eight reactors).

"The plant tries to minimize emissions, but they've had spills in the past that have shown up in the water of towns 18 miles away," Chevrotiere said.

Currently, the Bruce complex is gearing up to become a high-level radioactive waste storage facility for used nuclear fuel bundles, with plans to store 750,000 used fuel bundles (about 20,000 tons of high-level nuclear waste) in the near future. That amount is expected to double over its lifetime.

That kind of storage would make it about half the size of the controversial U.S. Department of Energy plan to entomb 77,000 tons of nuclear waste at Yucca Mountain in Nevada.

Two weeks ago, on June 14, an earthquake shook the Yucca Mountain area — one of the main safety concerns of opponents of the plan. Four days after the earthquake, the East China Township Board of Trustees followed Detroit Edison's recommendation and unanimously passed a resolution endorsing the Yucca Mountain site.

Normand de la Chevrotiere, who has concerns about nuclear security and safety, displays a mock spent nuclear fuel bundle to the Binational Public Advisory Commission on the St. Clair River. About 750,000 of the bundles are to be stored at the Bruce Nuclear Complex, located in Canada on Lake Huron about 90 miles north of the St. Clair River.

"We think U.S. citizens have the right to know that a nuclear waste facility over half the size of Yucca Mountain is going ahead 90 miles upstream of the St. Clair River," Chevrotiere said.

The safe storage of radioactive waste, which will remain toxic for hundreds, even thousands of years, is a problem that has eluded solution. Kay Klassen of the Canadian Nuclear Safety Commission in Ottawa calls the storage site at Bruce "interim," meaning 50-100 years.

A long term solution would involve keeping the highly toxic waste safe for 10,000 years.

"They're saying the same thing now as they were saying in 1953 — that a safe waste storage solution was just around the corner," said Steele.

"One used fuel bundle is about the size of a fireplace log," Chevrotiere said, hefting a mock-up of a spent fuel bundle. "An unprotected person standing within one meter of one freshly removed used fuel bundle would receive a lethal radiation dose in seconds and be dead within an hour."

The bundles will be stored in 2,000 steel and concrete silos, each weighing about 140,000 pounds when fully loaded.

"Now, the fuel bundles generated at Bruce itself are stored in cooling pools that are quickly becoming full," Chevrotiere said. "And Canada has no method of getting rid of it."

Still, security issues dominate his concerns.

"It is questionable whether the necessary level of security can ever be achieved, given the location (of Bruce) and the fact that high-level waste storage will no longer be stored only at the reactor buildings, but also stored above ground at the new high-level waste site ... Protecting this site from both water and air approach is a daunting challenge in itself. The nuclear site, we believe, is also easily accessible by land in a number of locations. To exacerbate the situation, this nuclear site is also between Lake Huron and a glacial bluff, affording a virtually unobstructed and relatively close view of the entire complex."

Chevrotiere complained the new storage facility was redesigned and rushed through the approval process without the standard, independent oversight. Chevrotiere and other members of a volunteer community group, called Inverhuron and District Ratepayers Association, pursued the matter through Canada's top three courts until the Canadian Supreme Court said it lacked the expertise to rule on the matter.

"The Bruce site has not had an exemplary record with safety," said Chevrotiere. "We think you folks have a right to know that ... We have documents, many obtained through freedom of information, which (say that the plant has) on occasion directly discharged liquid nuclear waste into Lake Huron."

Another document states: "A systematic deficiency has existed in our process for controlling the movement of potentially radioactive material for a number of years. A review ... leads us to conclude that the same deficiency exists across the site."

Take stock of the situation, Chevrotiere warned.

"Given the proximity of the Bruce nuclear complex to the St. Clair River, I thought this information would be of interest to you."

The Blue Water VOICE