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Ontario sets drilling rules to prevent disaster

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Ontario is strengthening drilling regulations for geothermal energy systems after averting a potential disaster in Oakville recently, but a business leader says the extra costs will put the industry at risk.

The rules will add "significant costs" to vertical geothermal heat pump systems and make them less attractive to consumers, says Denis Tanguay, president of the Canadian GeoExchange Coalition.

"It is very likely that these additional costs will put the industry at risk to a point where the customer return on investment will be delayed by many years," he said Friday. "The geothermal industry in Ontario is already challenged by high electricity rates. Any additional cost will have a negative impact."

The Ontario government announced earlier in the day that it will require geothermal installers to obtain provincial approval for vertical closed loop systems. They must also consult with a certified geoscientist or engineer and develop an emergency plan before drilling. The rules are effective immediately.

Furthermore, the Environment Ministry said it will consult industry stakeholders in the next few months about the regulations and conduct inspections to ensure installers are meeting safety standards.

Geothermal energy is a form of renewable energy that leverages underground temperatures to heat and cool buildings. Systems to tap that energy provide an excellent source of green heating and cooling.

They support the government's long-term plan to use more renewable energy and eventually close dirty coal plants.

"The actions we are taking today and in the coming months will ensure geothermal drilling takes place safely," said Environment Minister Jim Bradley.

The government moved quickly after urgent calls last week by Oakville Mayor Rob Burton, his town council and the provincial association of fire chiefs for an immediate moratorium on unregulated drilling for geothermal energy installations until it implemented rules for public safety.

Last month, a contractor drilled a borehole for a heating system and struck significant volumes of pressurized natural gas hundreds of metres deep, which could have sparked major explosions, property damage and loss of lives in Oakville.

The local gas utility and town fire department received an emergency call from the owner of a home about 100 metres from the drilling site a few days later.

High levels of natural gas (which is odourless in its naturally occurring state) were found inside and outside the home. Officials took steps to ensure proper ventilation and monitoring.

Tanguay acknowledged the new rules may help avoid a similar incident. But he noted that in the Oakville case, an engineer or a geoscientist could not have guessed installers would hit natural gas at 120 metres since underground mapping of the area showed its presence at about 380 metres.

"Disaster could be averted with multiple gas detectors on the drilling rig so that the operator knows precisely what is happening when it is happening," he added, offering an alternative.

"In short, drilling activity comes with a risk. Anything that can be done to reduce those risks is good. But the current regulation may not be the answer."

Since 2008, companies have installed more than 8,800 geothermal systems in Ontario. About 15 per cent involve closed loop vertical systems.

The average price for a four ton vertical geothermal heat pump system in Ontario is about \$32,000. A similar system with a horizontal loop has a price tag of about \$28,000.

Tanguay said it would be difficult to estimate how much more the systems would cost with the new rules.