

Backgrounder

GREENPEACE

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How prepared is Ontario for a nuclear accident? Answer: It's not.

Could an accident leading to the release of radiation happen at Darlington?

Yes. All reactors operating in Canada are vulnerable to accidents caused by a combination of human error, design flaws and natural disasters.

Indeed, the Canadian nuclear industry believes nuclear accidents like the Fukushima accident are possible here in Canada. That's why they've asked for the special legislation which protects them from compensating victims in the event of an accident.

Can the Ontario government protect Ontarians in the event of an accident at Darlington?

No. Ontario only plans for accidents involving small radiation releases. The only detailed evacuation plans in place are for a 10 kilometer area around Darlington, Pickering and Bruce nuclear stations.

What do Fukushima and Chernobyl tell us about the adequacy of Ontario's 10km evacuation zone?

Fukushima and Chernobyl both showed that there is a need to plan to evacuate communities' well beyond the 10 km zone that is in Ontario's nuclear emergency plans.

While the Japanese government initially told the public no one outside the 20km evacuation zone would be affected by Fukushima's fallout, later people living between 20km and 30km from the nuclear station were asked to voluntarily evacuate. Communities 50km away from Fukushima were also evacuated. Radioactive fallout from Fukushima has also been detected across Japan.

People hundreds of kilometres away from the Chernobyl nuclear station – well beyond the 30 km evacuation zone - were found to be exposed to significant radioactive fallout.

Why hasn't the government developed emergency plans for major reactor accidents?

Reactor operators claim that the likelihood of a major accident at a Canadian reactor is so low that there is no need to develop detailed emergency plans for such events.

However there's a major nuclear accident somewhere in the world about once a decade. Greenpeace believes the government has a responsibility to revise nuclear emergency plans to deal with major accidents.

Should we trust OPG's claim that the likelihood of a major accident at Darlington is so remote we shouldn't prepare detailed plans?

No. Risks studies by Ontario Power Generation (OPG) cannot be trusted as a basis for emergency planning since they aren't reviewed by independent third parties. Thus the studies are vulnerable to manipulation by the operator (OPG) with a vested interest in minimizing its stations' accident risk.

Also, since we're seeing a major nuclear accident about once a decade somewhere in the world, so why would we not plan for the worst case scenario?

Has the Fukushima disaster exposed any specific risks with Ontario's nuclear stations?

Yes. That nuclear disaster highlighted the risks of operating multiple reactor accidents at the same site. At Fukushima, an external event triggered the release of radioactive material from multiple reactors and fuel storage facilities with separate safety systems. Ontario's Darlington, Pickering and Bruce nuclear stations also have multiple reactors at the same site. Ontario's nuclear stations are even more vulnerable to radiation releases than the Fukushima reactors because they were built with shared nuclear safety systems in order to save money.

Has Ontario made plans to deal with simultaneous accidents at multiple reactors?

No, because the Ontario government was confident that such events were so unlikely we didn't need plans.

Last year, the Joint Review Panel evaluating the construction of additional reactors at Darlington recommended that emergency plans be reviewed to see if they can cope with radiation releases from all of Darlington's reactors. The Canadian Nuclear Safety Commission (CNSC) has refused to implement this recommendation.

What does the lack of comprehensive nuclear emergency plans mean for the Greater Toronto Area?

It puts the health millions of Canadians at risk.

The Darlington and Pickering are located in the most densely populated area in Canada. Half of all Ontarians and one in six Canadians live within 60km of the Darlington and Pickering nuclear stations.

Despite this, Ontario has detailed plans to evacuate only a 10km around each station.

To compare, 150,000 people were evacuated in 20km area around Fukushima nuclear station while 477,000 live within 20km of Darlington and 1.3 million around Pickering.

What could an accident at Darlington mean for Lake Ontario?

In the event of an accident at Darlington, it is entirely plausible that radioactive fallout could contaminate Lake Ontario, the drinking water source for nine million Canadians and Americans.

What are the potential health impacts of radiation if an accident happened at Darlington?

That depends on the amount of radioactive material released. Exposure to large amounts of radioactivity will cause radiation sickness which can be fatal due to the damage radiation causes to cells and organs. Exposure to lower levels of radiation can lead to fatal cancer or hereditary diseases over the long term.

Isn't it true that Canadian reactors are safer than other designs and no earthquake or tsunami would happen to trigger an accident like Fukushima?

Reviews of past nuclear accidents, such as Chernobyl and Three Mile Island, have concluded that the failure of government institutions to take nuclear risks seriously is what actually caused those accidents.

The Japanese government's Independent Investigation Commission concluded that the Fukushima disaster was not as a result of an earthquake and the subsequent tsunami. It was man-made.

They also concluded that the nuclear industry's significant political influence over Japan's safety regulator is a barrier to effective safety regulation. We have a similar situation here. In Canada the nuclear industry has very strong political influence here too.

Are there concerns about the independence of Canada's nuclear safety regulator?

Yes. In 2008, the Harper government fired the president of the Canadian Nuclear Safety Commission (CNSC) Linda Keen because she was imposing modern safety standards on the industry because, according to Keen, SNC-Lavalin the Quebec engineering firm who sells the CANDU reactors, was upset.

The decision by the Harper government to fire Keen and choose SNC-Lavalin and sent a strong signal to the nuclear industry and our federal regulator: nuclear safety can be ignored or dismissed.

In its review of OPG's proposal to rebuild and extend the life of the Darlington nuclear station, has Canada's nuclear safety regulator worked to ensure the emergency plans will protect Canadians in light of Fukushima ?

No. The CNSC has refused to consider whether current emergency plans are sufficient to protect the public from large radiation releases.

The federal government's Joint Review Panel called for an assessment of whether emergency plans can cope with radiation releases from all of the reactors at the Darlington site. The CNSC refused

The CNSC also refused the request of the provincial government agency responsible for offsite emergency plans, Emergency Management Ontario, to consider the adequacy of current emergency plans against large radiation releases in light of Fukushima.

Greenpeace has asked the CNSC at each step of its environmental review of Darlington to consider large accidental radiation releases. Each time the CNSC has refused claiming that large radiation releases are unlikely, a position they maintain despite Fukushima.

What does Greenpeace want?

Greenpeace believes that government authorities have a responsibility to protect the public and not the nuclear industry.

In light of Fukushima, detailed nuclear emergency plans must be developed for a large-scale accident, including multi-unit accidents, at all of Ontario's nuclear stations.

The environmental review underway on OPG's proposal to extend the life of the Darlington nuclear station should consider whether emergency plans can cope with large-scale accidents over the life of the project (until 2055) considering the GTA's population growth.