



**RNAO Submission on Toronto's
Emergency Management Program
and Revisions to Toronto Municipal
Code**

October 23, 2017



The Registered Nurses' Association of Ontario (RNAO) is the professional association representing registered nurses (RN), nurse practitioners (NP) and nursing students in all settings and roles across Ontario. It is the strong, credible voice leading the nursing profession to influence and promote healthy public policy. RNAO welcomes this opportunity to respond to *Toronto's Emergency Management Program and Revisions to the Toronto Municipal Code* (EX28.13).¹

The Risk

Nuclear power plants tend to be located in lightly populated areas. But not in Ontario. About 6.6 million people live in the Greater Toronto Area (GTA) – many of whom would be at risk of injury, poisoning and death if one of the two multi-reactor nuclear stations on the city's edge were to have an accident.

Toronto must complete a hazard analysis and risk assessment, including assessing the potential impact of a nuclear power accident.² Emergency planning in Toronto and in Ontario must take nuclear risk very seriously because, unlike most other nuclear jurisdictions, many of the province's nuclear power plants are located adjacent to large population concentrations. The Pickering plant is just 5 km east of Toronto and the Darlington plant is 30 km east.³ There were only 160,000 people evacuated as a result of Japan's Fukushima disaster, even though there was a 20 km evacuation order and voluntary evacuation in the area 20-30 km from the plant.⁴ As of 2006, a 20 km evacuation around the Pickering plant would affect 1.3 million people, while 477,000 people would be affected around Darlington; many of these people live in the GTA.⁵ As these populations continue to grow so will the numbers of people at risk in the event of a nuclear accident.

The Great Lakes, which supply drinking water for 40 million people, are also at risk: there are 10 Ontario reactors on Lake Ontario, eight Ontario reactors on Lake Huron, four US reactors on Lake Ontario and three US reactors on Lake Erie.⁶ As a result, planning for alternative sources of drinking water is essential. Toronto is down-stream from all of these reactors. An accident from any one of these reactors could compromise the water supply – particularly if the accident were to take place on Lake Ontario.

Much of the adverse impact of Fukushima was due to the evacuation of vulnerable communities from hospitals and nursing homes. This could have been mitigated with better planning.⁷ The World Nuclear Association cited over 1,000 deaths directly attributable to the evacuation around Fukushima.⁸ This is a risk for any kind of evacuation, as was the case with Hurricanes Katrina and Rita.⁹ And vulnerable or not, living as a refugee for an extended period of time raises the risk of death.¹⁰ Accordingly, there must be planning for immediate and on-going health services to mitigate those risks.

With the health of so many people at stake, and having witnessed how wrong things can go when accidents happen as they did at Chernobyl and Fukushima, a precautionary approach is called for – so long as Ontario continues to run its nuclear reactors.

The role of RNs and NPs in nuclear disasters

Health services are central to disaster mitigation and emergency response, and RNs and NPs are in the front lines when any disaster does strike. RNs and NPs play key roles in responses to nuclear incidents including: radiation exposure screening; triage; decontamination; treatment for radiation; treatment for exacerbations of existing medical conditions; assistance with evacuation; and attending to the health and psychological needs of evacuees. Problems during the Fukushima nuclear disaster demonstrated the need for authorities to ensure adequate supports are in place for nurses in the event of emergencies. That includes ongoing work to provide RNs and NPs with the necessary training and materials.¹¹ Inadequate preparation at Fukushima also contributed to: deaths of vulnerable people due to rapid evacuation; deaths due to displacement of elderly people requiring nursing care; and adverse impacts on affected individuals' lifestyle and mental health.¹² This is reminiscent of how the 2003 SARS outbreak revealed Ontario's lack of preparation for public health emergencies.¹³

It is crucial to have comprehensive planning so that RNs and NPs can be ready for all the above roles. Furthermore, they must be involved in the detailed planning processes. Planning must identify and commit all necessary resources, including: key hospitals and other health facilities; decontamination centres; equipment; materials; and personnel. To ensure resources can be rapidly mobilized in the event of a disaster, it is essential that personnel likely to be involved receive appropriate and adequate training. For example, public health, primary care, long term care, and acute care nurses must learn to identify vulnerable populations in the shadow of nuclear plants. Nurses trained to screen for acute radiation syndrome can identify people with the highest priority for treatment. Nurses will also need to know how to best decontaminate exposure victims, how to handle contaminated clothes and water, how to treat and cover wounds, and how to protect food and water from radiation.

Recommendations

Toronto must urge Ontario to get its Provincial Nuclear Response Plan (PNERP) right. Other municipalities have already been calling on the province to greatly enhance nuclear preparedness standards. Those municipalities include: Durham Region, Ajax, Windsor, Amherstburg, Essex County and Brockton.¹⁴ RNAO urges Toronto to join those efforts.

RNAO, as a signatory of *A Call for Public Safety: Addressing Nuclear Risks on the Great Lakes*,¹⁵ made the following recommendations to the province on its submission on the PNERP:¹⁶

1. Base protective measures on a Fukushima-scale accident (International Nuclear Event Scale 7 (INES 7)), including alerts, potassium iodide pre-distribution and preparation for evacuation zones of 20 km or greater.
2. Prepare for full health support of all displaced populations, including health practitioner staffing at evacuation centres and health teams to visit reception centres without health teams.
3. Ensure on-going emergency training of key health care providers in primary and acute care, long-term care and public health, including RNs and NPs.
4. Ensure all necessary policies, procedures and documentation are in place to support health professionals in the event of a significant nuclear incident.
5. Identify vulnerable groups within 30 km of nuclear facilities and require plans to assist those groups, whether they are evacuated or not.
6. Ensure alternate sources of drinking water are identified and available, given the possibility of contamination of Great Lakes water.
7. With respect to transparency and public participation, require the public availability of detailed information on nuclear emergency planning, and require five-year reviews and detailed public consultation on emergency response planning.
8. Require emergency response measures to meet or exceed international best practices.
9. “Regularly review and publicly report on international developments and best practices in offsite nuclear emergency planning as well as on plans to adjust and improve Ontario’s plan to meet or exceed the best practices in other OECD jurisdictions.”¹⁷

Toronto would be heavily affected by any significant nuclear accident in its nearby nuclear reactors, and it must insist on a world-class emergency response plan.

Toronto Recommendation. Urge the province to enhance its nuclear emergency response plan so that is capable of dealing with a Fukushima-level accident (International Nuclear Event Scale 7 (INES 7)). That includes: preparing full health support for displaced populations; ensuring on-going emergency training of key health care providers; providing support for health professionals in the event of a disaster; and preparation for prompt delivery of potassium iodide (KI) pills beyond a 10-kilometer radius around nuclear reactors.

RNAO will support any effort for a strong precautionary approach nuclear disaster preparedness for Toronto and Ontario, and will follow the entire process to its conclusion.

¹ Toronto. (2017). *Toronto's Emergency Management Program and Revisions to the Toronto Municipal Code*. October 6. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX28.13>.

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- ² Toronto. (2016). *Office of Emergency Management – Annual Report and Program Update (EX 18.10)*. October 7. <http://www.toronto.ca/legdocs/mmis/2016/ex/bgrd/backgroundfile-97227.pdf>.
- ³ Otis, D. (2016). Safety Not guaranteed near nuclear plants in Pickering and Clarington, critics say. *DurhamRegion.com*. January 26. <https://www.durhamregion.com/news-story/6218718-safety-not-guaranteed-near-nuclear-plants-in-pickering-and-clarington-critics-say/>.
- ⁴ World Nuclear Association. (2017). *Fukushima Accident*. <http://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/fukushima-accident.aspx>.
- ⁵ Centre for Spatial Economics. (2011). *Economic Impacts of a Nuclear Accident at the Pickering or Darlington Nuclear Stations*. Prepared for Greenpeace Canada. September. <http://www.greenpeace.org/canada/Global/canada/report/2011/09/Accident%20impact.pdf>.
- ⁶ Canadian Environmental Law Association et al. (2017). *A Call for Public Safety: Addressing Nuclear Risks on the Great Lakes*. P. 5. <http://www.cela.ca/sites/cela.ca/files/Call-for-Public-Safety.pdf>.
- ⁷ L. Stenke et al., Lessons Learnt from the Fukushima Accident – A Swedish Medical Preparedness Perspective, *Radiation Protection Dosimetry*, (2016) Vol. 171, No 1. Pgs. 134 – 138.
- ⁸ World Nuclear Association. (2017). *Fukushima Accident*. <http://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/fukushima-accident.aspx>.
- ⁹ Freya Zork, Nursing Home Disaster Planning and Response: A Policy Perspective, *Journal of Gerontological Nursing*, Vol.40, No.12, 2014.
- ¹⁰ Tanaka R., Prolonged Living as a Refugee from the Area Around a Stricken Nuclear Power Plant Increases the Risk of Death. *Prehospital and Disaster Medicine*, August 2015, Vol 30, Issue 4, pgs. 425-430.
- ¹¹ Yoshida, K., Orita, M., Goto, A., Kumagai, A., Yasui, K. et al. (2016). Radiation-related anxiety among public health nurses in the Fukushima Prefecture after the accident at the Fukushima Daiichi Nuclear Power Station: a cross-sectional study. *BMJ Open* 2016;6: e013564. doi:10.1136/bmjopen-2016-013564.
- ¹² Hasegawa, A., Ohira, T., Maeda, M., Yasumura, S, and Tanigawa, K. (2016). Emergency Responses and Health Consequences after the Fukushima Accident; Evacuation and Relocation. *Clinical Oncology*. 28 (2016), pp. 237-244. <http://www.sciencedirect.com/science/article/pii/S0936655516000054>.
- ¹³ Registered Nurses' Association of Ontario. (2003). *SARS Unmasked: A Report on the Nursing Experience with SARS in Ontario*. September 29. http://rnao.ca/sites/rnao-ca/files/SARS_Unmasked.pdf.
- ¹⁴ Canadian Environmental Law Association. (2017). *Comments on EX28.13: Toronto's Emergency Management Program and Revisions to the Toronto Municipal Code*. <http://www.toronto.ca/legdocs/mmis/2017/ex/comm/communicationfile-72979.pdf>.
- ¹⁵ Canadian Environmental Law Association et al. (2017). Op. cit.
- ¹⁶ Registered Nurses' Association of Ontario. (2017). *RNAO Submission on the Provincial Nuclear Emergency Response Plan (PNERP)*. July 28. http://rnao.ca/sites/rnao-ca/files/RNAO_PNERP_submission_final.pdf.
- ¹⁷ Canadian Environmental Law Association et al. (2017). Op. cit. p. 7.