Neglecting Southwestern Ontario:
Gaps in Ontario's Discussion Paper on Nuclear Emergency Response

Issue: A Discussion Paper on how the Ontario government should update the Provincial Nuclear Emergency Response Plan (PNERP) ignores important lessons from the Fukushima accident and omits key information needed to properly determine upgrades to emergency response plans for communities living near the Michigan-based Fermi nuclear station. The government is accepting comments until July 14th 2017.

Recommendations:

- Urge the Ontario government to strive to meet international best practices for emergency response.
- Encourage the Ontario government to recognize public expectations for public safety, including putting in place measures to protect the public in the event of a Fukushima-scale accident.
- Request the province include requirements for potassium iodide (KI) pre-distribution and availability for communities living in proximity to the Fermi and Davis-Besse nuclear stations equivalent to requirements for Ontario-based nuclear stations; around the Fermi nuclear station in its updated nuclear emergency plan.
- Request the Ontario government transparently consult with municipalities and citizens on the establishment of emergency planning zones on the Ontario side of the border, for the Fermi nuclear station and that such zones be informed by international best practise and accident modelling.
- Request the next PNERP include a reliable funding mechanism to support nuclear emergency preparedness for communities in Southwestern Ontario.

Ontario's Lower Standard of Analysis for Fermi & Davis-Besse

- Unlike Ontario-based CANDU stations and Chalk River Nuclear Laboratories the Discussion Paper relies on no accident modelling to estimate the consequences and need for offsite emergency measures in the event of an accident at the Fermi nuclear station.

- The Discussion Paper observes that American Light-Water Reactors like the one at Fermi could release *more* radioactivity in the event of a severe accident than the CANDU reactors in Ontario. It does not provide information on how much more and how this could require more expansive emergency measures.

- The Discussion Paper recommends a 20km Contingency Zone "double" the size of the 10 km Primary Zone surrounding Ontario-based stations, but makes no such recommendation for Fermi. It says the Fermi Contingency Zone will be determined at a later date.

- Applying the same approach to Fermi 16 km Primary Zone would mean a 32 km Contingency Zone. This would reach the town of LaSalle.

- The Discussion Paper contains no discussion or recommendations related to preparing for an accident at the Ohio-based Davis-Besse nuclear station, which is located at a distance to Essex County similar to that of Fermi nuclear station.

- The Discussion Paper implies Ontario lacks the independent capacity to model accidents at the Fermi nuclear station in the event of an accident. The province thus doesn't have the capacity to independently assess risks to its citizens and advise on emergency measures. Instead it appears Ontario would rely on advice from the American authorities in the event of an accident.

Ignoring Lessons from Fukushima

- The Discussion Paper recommends Ontario maintain its current policy of only preparing detailed emergency plans for accidents equivalent in scale to the one at Three Mile Island in 1979.

- Limiting detailed planning to accidents similar in scale to Three Mile Island means the preparation of emergency measures is restricted to areas in immediate proximity to nuclear stations. Preparing for larger accidents would expand emergency response areas.

- The Discussion Paper ignores the occurrence of the major accidents of Fukushima and Chernobyl, but asserts that such events are too unlikely to justify planning for.

- The Discussion Paper, which was developed in close consultation with reactor operators, ignores public expectations for public safety.

Public Safety Delayed: Potassium Iodide Distribution and Availability

- The timely ingestion of Potassium Iodine (KI) can block radioactive iodine from entering the thyroid gland and significantly reduces the risk of thyroid cancer following a reactor accident particularly for children. Radioactive iodine can rapidly travel long-distances on the wind in the event of an accident.

- The Ontario government and reactor operators have historically opposed KI pre-distribution (direct delivery), but were forced to pre-distribute KI around Ontario plants before the end of 2015 due to a licence requirement imposed on reactor operators by the Canadian Nuclear Safety Commission (CNSC) in 2014.

- The CNSC required Ontario-based reactor operators to deliver potassium iodide to all homes within 10 km Primary Zones, but acknowledged that the 10 km radius was "arbitrary" and not necessarily based on need or best practice.

- Ontario's 10 km Primary Zone was established for detailed evacuation planning and not for KI distribution.

- KI pills are delivered to all homes within 20 km of the Point Lepreau nuclear station in New Brunswick. Switzerland delivers KI to all residents within 50 km of a nuclear station.

- The CNSC imposed KI delivery requirements on reactor operators in 2014 due to delays in updating the provincial nuclear emergency plan, public concern and international best practices.

- The province's current nuclear emergency response plan does not even acknowledge the CNSC's 2014 KI distribution requirements.

- Although the Discussion Paper recommends maintaining evacuation zones at Ontario-sited nuclear stations based on accident modelling, it abstains from recommending zones for potassium iodide (KI) distribution even though the same data suggests the need to expand KI delivery beyond the current 10 km zone for Ontario plants.

- Modelling provided in the Discussion Paper for Ontario reactor designs suggests direct delivery of KI would be advisable within 20 km around Ontario-based nuclear stations to better protect children from thyroid cancer.

- The CNSC also required KI to be made available upon request to anyone within the province's 50-km Secondary Zone, which was designed only for radiation monitoring and possible control of contaminated food. The Secondary Zone for the Fermi nuclear station is 80 km.

- In 2017, Belgium announced it would expand KI availability to all residents within 100 km of Belgian nuclear stations and as well as a requirement for informing citizens of KI availability. Belgium's expansion of KI availability is an acknowledgement that preparing for larger reactor accidents requires emergency measures at greater distances from nuclear stations.

- In line with its historic resistance to strengthening public safety, the government of Ontario has yet to pre-distribute or make KI available to Ontarians living in proximity to the Fermi nuclear station.

No Discussion of Drinking Water Protection

- In 2013, the former Minister of Community Safety, Madeline Meilleur, committed to commission a study on the potential contamination of the Great Lakes and drinking water supplies in the event of a major accident at Pickering or Darlington.

- There are twenty-five reactors on the Great Lakes, but there has never been a study of how a nuclear accident could impact the source of drinking water for forty-million Americans and Canadians.

- The government has not delivered on this commitment to study possible drinking water contamination. This deprives the public and municipalities of information needed to assess threats to public safety.

- The Discussion Paper does not consider the potential for the Great Lakes to be contaminated in the event of a major accident or what measures may need to be put in place to protect drinking supplies.

- In the 1980s, a former president of the Atomic Energy Control Board (the predecessor of the CNSC) also recommended the government study possible impacts on drinking water in the event of a major nuclear accident. The government never implemented this recommendation.

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