



**Supplementary Information
Oral Presentation**

**Revised presentation from the
Port Hope Community Health
Concerns Committee**

In the Matter of the

**BWXT Nuclear Energy Canada Inc.,
Toronto and Peterborough Facilities**

Application for the renewal of the licence for
Toronto and Peterborough facilities

Commission Public Hearing

March 2 to 6, 2020

**Renseignements supplémentaires
Exposé oral**

**Présentation révisée du
Port Hope Community Health
Concerns Committee**

À l'égard de

**BWXT Nuclear Energy Canada Inc.,
installations de Toronto et Peterborough**

Demande de renouvellement du permis pour les
installations de Toronto et Peterborough

Audience publique de la Commission

Du 2 au 6 mars 2020

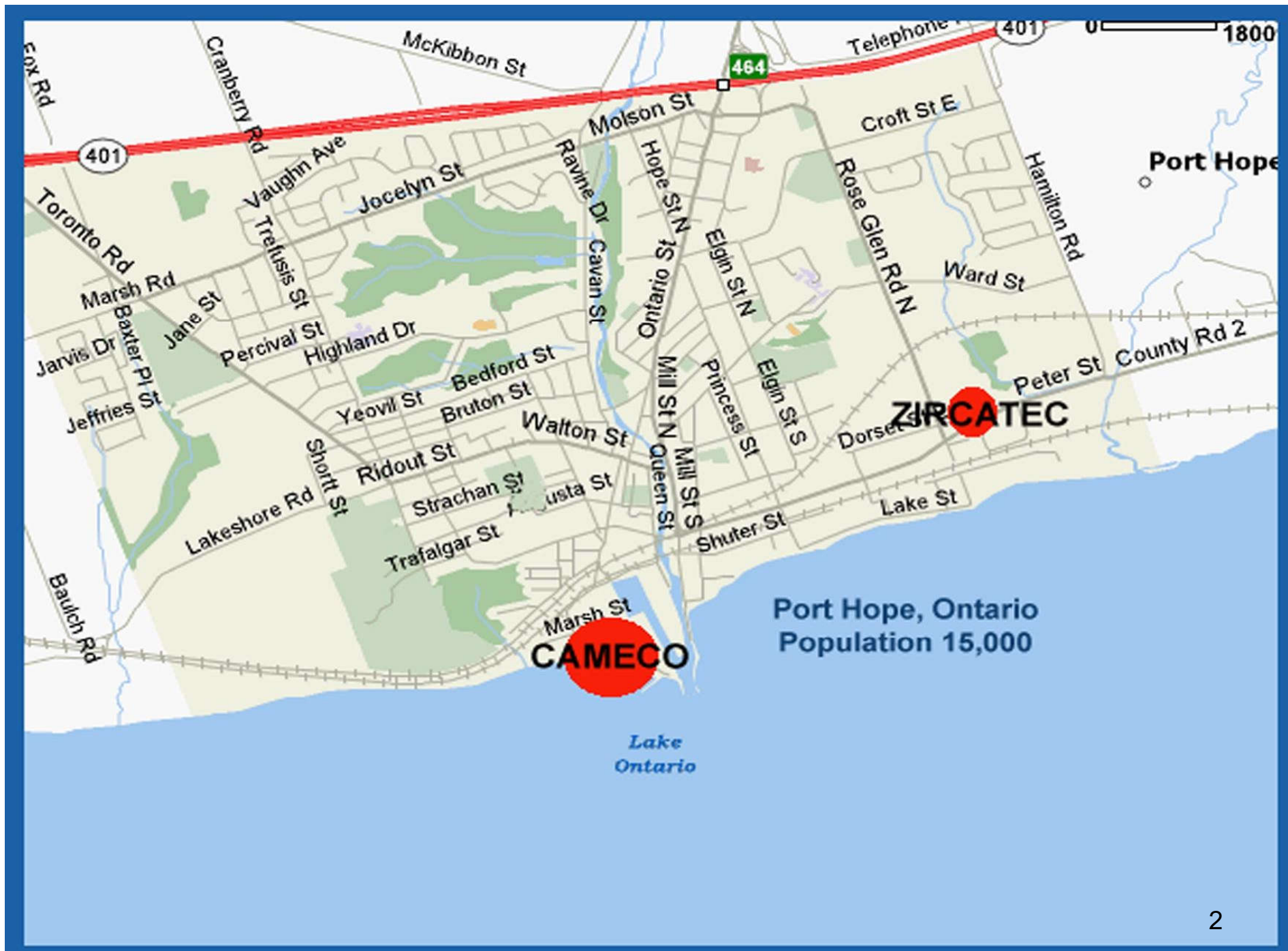
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Port Hope Community Health Concerns Committee

**Intervention to CNSC re
BWXT Nuclear Energy Canada, Inc
Licensing Hearing
March 3-5, 2020**



Port Hope, Ontario
Population 15,000

BWXT Peterborough







Sidewalk beside
public school
looking down
street to location
of BWXT in
residential area.



PHCHCC Recommendations

- 1. Issue 5 Year individual licenses for Peterborough and Toronto BWXT sites not combined**
- 2. Allow no changes to operations at either property except to begin to reduce levels and quantities of U on site and outputs**
- 3. Within that 5 year license timeframe finalize decommissioning plans for each location with the appropriate financial guarantees in place, to successfully dismantle buildings and restore properties for future unencumbered use by the people.**
- 4. Implement a final timeline for completion of relocation of operations away from communities.**

Cautionary Tales from Port Hope: Stop Compounding Historical LOCATION Mistakes

Ongoing Public Hazards: Cameco Port Hope and BWXT:

- No buffer zone from public for operations and storage
- Proximity to schools, hospitals, homes, waterways
- Ongoing toxic emissions impact air, water, soil, vegetation
- Lack of appropriate level of security
- Terrorism, accident , fire hazards
- Emergency response limitations
- Aging facilities emit fugitive emissions daily, not measured
- Lack of appropriate liability insurance by industry for public
- Transportation of radioactive materials, chemicals through town
- Neighbourhood stigma increasing
- inadequate decommissioning financial guarantees, plans
- Exposure risks for workers and public

BWXT Issues for Peterborough Site with Proposed License

- Exposure to inhaling insoluble ceramic U is NOT same as background gamma exposure - erroneous comparisons, contradictory content in documents
- CNSC risk category increases from low to medium for Peterborough site due to increase in UO₂ particulate volume from pelleting operations
- Increase dust increases risk to public and workers
- Increase monitoring and public reporting of workers exposures and environment needed beyond fence-line
- Introduce effective internal exposure levels
- Isotopes of U feed material complex with contaminants
- Particle size, composition, isotopic ratio unknown

BWXT Issues for Peterborough Site with Proposed License

- Implement monitoring U in discharges to air and water including soil and vegetation beyond the fence-line for a wide radius.
- Determine and address volume of fugitive emissions
- Need improvement to flood water management
- Need improvement to Radiation Protection Plan
- Increase in transportation of hazardous materials and risk to the community from emissions, accidents
- No need for the proposed change is given
- The Precautionary Principle is not applied now or historically

Concerns with CNSC Actions

- Authorizes serious changes to industries' operations through letters from Ottawa mid-license. Not public
- Hearings are sometimes held by Chair alone on serious matters e.g. 2016 GE Hitachi license transfer to BWXT..
- Staff decide risk, safety without public input
- EA decisions yes or no controlled by CNSC lacks independence, external or public accountability.
- 10 year licenses severely limit public participation
- Staff lead public meeting held January 23rd in Peterborough highly unprofessional, unhelpful with the public.
- CNSC processes biased on behalf of industry not public

Concerns with CNSC Actions

- Low financial guarantees accepted by staff for Peterborough site at \$10.7M and Toronto site at \$37.3M are unacceptable.
- Private industry liability insurance for damage to public/private properties beyond their fence-line is apparently not required. Taxpayers of Canada subsidize private operations. This is unacceptable.
- Where is the protection for public and private property owners paid by the industries and their shareholders rather than taxpayers of Canada?

Concerns with CNSC Actions

- Ongoing licensing of Eldorado Nuclear and lack of meaningful oversight resulted in more than 70 years of radioactive contamination throughout Port Hope (conservatively estimated 7 years ago at 1.7 M cubic metres - too low, and so far taxpayer committed \$1.2B cleanup of the town underway after 50 years)
- License after license by CNSC blindly ignores facts that operations have no business in the middle of communities and would absolutely NOT be approved in today's world nor should they be "grandfathered" simply because of history.
- Why don't the people who live there have any power?

Port Hope Evening Guide



VOL. 98 NO. 34

PORT HOPE, ONTARIO WEDNESDAY FEBRUARY 18, 1976

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Concerned citizens wait patiently for their turn to address the panel.

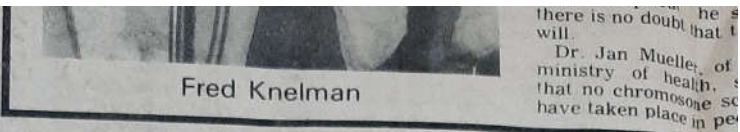
Residents, experts confront Ministry

By Susan Rhind

Ministry of Health officials came under heavy attack from Port Hope and outside concerned citizens at last night's radiation meeting. Faye More, Port Hope resident, accused the government "of imposing a so-called acceptable risk on the people of Port Hope. We were never asked what an acceptable risk would be to us. I think there should be a mandate from the people to get their opinions on this imposed risk. There also appears to me to be a conflict of interest here." Mrs. More pointed out that all the information the people are receiving is coming from a government body, yet the problem seems to have originated with the government. Eldorado Nuclear Ltd., a crown corporation, has been blamed for the presence of contaminated fill in Port Hope.

Dr. Fred Knelman, professor of science and human affairs at Concordia University, Montreal stated: "I

...omkins said that he had experienced 70,000 are picocuries and he wouldn't trade his health with anyone.



Fred Knelman

there is no doubt that he will. Dr. Jan Muelle, of ministry of health, said that no chromosome sc have taken place in pe

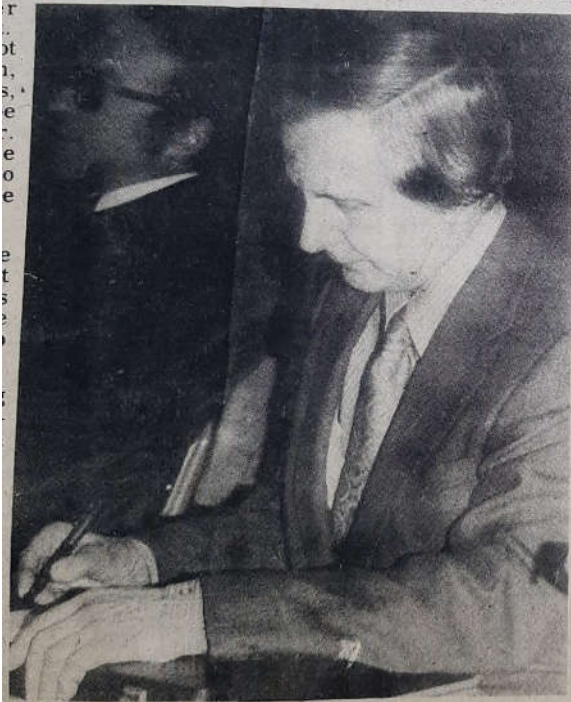
Laws being broken in Port Hope

By Paul Bailey

According to Dr. Douglas Andrews, professor of physics at the University of Toronto, the law is being broken in Port Hope.

Dr. Andrews, who was a pioneer in the field of nuclear energy and who is considered to be one of the world's top experts in nuclear science, said that there is no way Dr. Harry Aitken of the ministry of health can claim that a level of 50 picoCuries is a safe level. Dr. Andrews said that such a figure is in direct violation of the Atomic Energy Act.

Dr. Andrews said that in the United States, if someone were living in a house with levels as high as some of the homes in Port Hope, there is no doubt that they would have an excellent chance of suing for and receiving a million dollars in compensation. The



Douglas Andrews

levels in the Port Hope homes have been far in excess of those in Grand Junction, Colorado, where a similar problem was experienced.

Dr. Andrews said that the officials from the ministry of health are cooking their figures. He said that by the use of complicated mathematical equations, they can make almost any level appear safe. He said that the only safe level according to the International Commission of Radiological Protection who set safety standards, is one picoCurie per litre of air when the significant radon daughters radon A, B, and C1 are in equilibrium. He advised the town council to adopt a bylaw to that effect. He said anything is contrary to law which is above that figure. Therefore, the ministry of health's recommendation would be fifty times the standard endorsed by the Atomic Energy Act.

Ministry officials earlier stated that there were no homes in Port Hope above the international standards.

The ministry maintained however, that the risk was minimal.

Dr. Andrews said that such talk was nonsense. He said what they mean when they say 'minimal' is that only one person in a million may get cancer from the problem, but Dr. Andrews said that we must link the effects of radiation to actual grief. He said that statistics are of little comfort if someone in your family dies of cancer. He said it doesn't make much difference to a human being whether a relative dies of cancer or leukemia. That difference seems to matter to scientists.

He said that the law was most important and he emphasized that he was only saying what the law says. He added that just as you cannot drive 60 mph through the streets of Port Hope, you cannot break the Atomic Energy Act in Port Hope.

What the ministry of health is trying to do is to raise the speed limits of Highway 401 in the downtown core. He said a policeman would accept no excuses for speeding behavior and he questioned why the ministry of health, the federal government and Eldorado are allowed to apply their own arbitrary levels to Port Hope. He said there are rules governing these situations. He wondered why they weren't being obeyed.

He said that as early as 1966 he had submitted a report to the various governments but that no one seems to listen.

He said they all seem to have Mad Magazine's Alfred E. Newman at the doors who says simply "What, me responsible?" when the public asks for help.

Nuclear Physicist: Scientists' Warnings, 1976

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Present problems tip of the iceberg

Sam Nargawalls, a nuclear physicist formerly with the ministry of health, said that the problems experienced so far in Port Hope are only the tip of the iceberg. He said that he calculated how much radiation is in dump sites and it is about 8000 Curies of radiation potential.

He said that he had tried unsuccessfully to get the figures from Eldorado, the ministry of health and the Atomic Energy Control Board.

The 8000 curie potential would be based on the equivalent of about 8000 grams of radium being

...dumped from Eldorado refining operations over the years.

A curie is one trillion times a picoCurie. A picoCurie is the level used in talking of radon problems in Port Hope. If the international standard is one picoCurie, the potential radon hazard buried in dumps around Port Hope is 8000 trillion times that of the normal dosage recommended for the public, according to Mr. Nargawalls. The figure looks like this: 8,000,000-000,000,000 times the level of one.

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Ken Valentine, United Steel arg given out this ev reflects the pre formation. An a dishonest feeling this evening." picoCuries as th be taken. "It circulate one r dust right off th here, where ve that, the level noted that chil facing the grea 80,000 years an in 20 years v children will r

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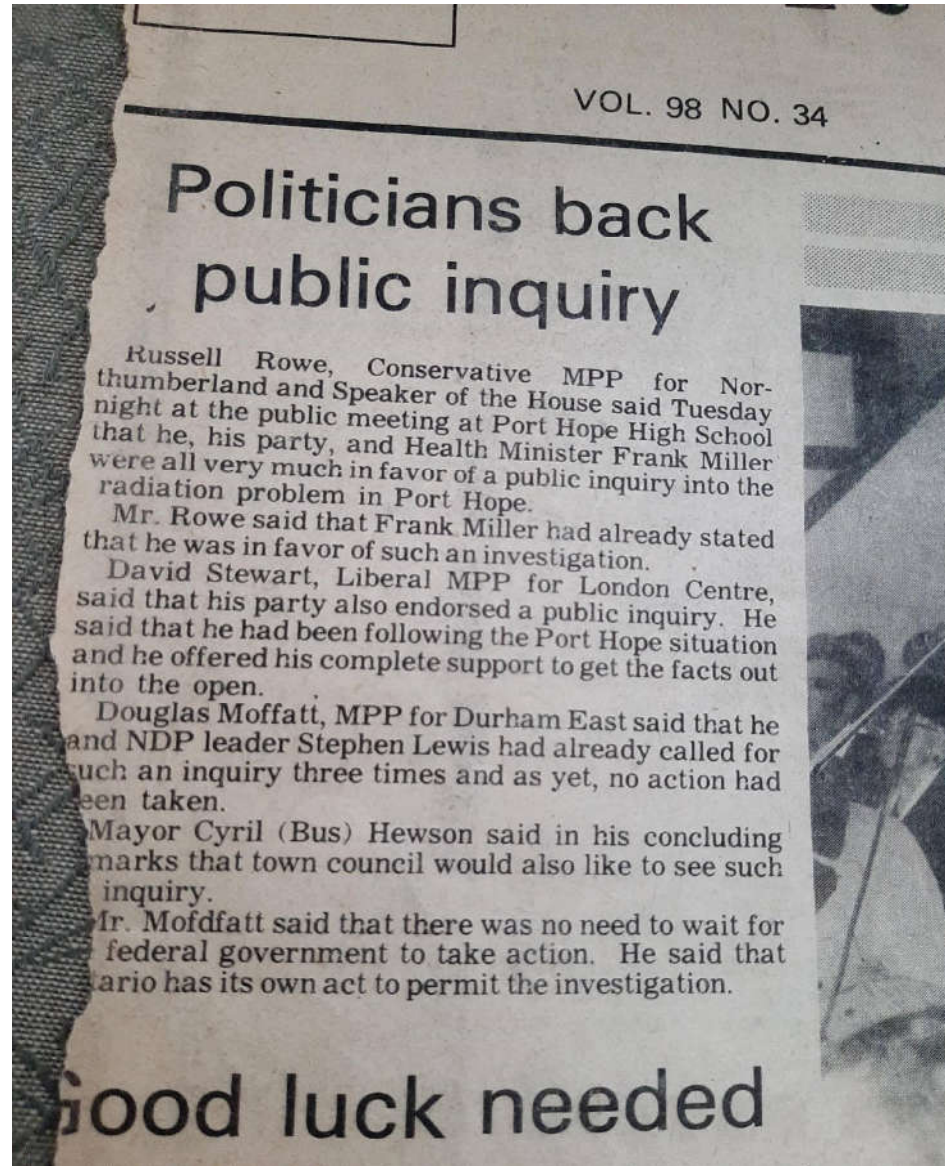
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...Nargawalls

Politicians Back Public Inquiry, 1976 Never Happened.



Nuclear Engineer Dr. Douglas Andrews, 1976 (warned government of contamination from 1966)

Thompkins said that he had experienced 70,000 picocuries and he wouldn't trade his health with anyone.

Dr. Jan Mueller, of the ministry of health, said that no chromosome scans have taken place in people.

Fred Kneiman

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levels in the Port Hope homes have been far in excess of those in Grand Junction, Colorado, where a similar problem was experienced.

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The ministry maintained however, that the risk was minimal.

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Douglas Andrews

Federal Port Hope Health Data

Federal reports (1997, 2000, 2002) showed Port Hope elevated data for selected periods and cohorts for:

- Overall death rate, circulatory disease, leukemia, non-Hodgkins lymphoma, cancers including childhood cancer deaths, and cancers of the lung, brain, nasal/sinus, esophageal, lip, bone, and colorectal.

2000, 2002 Health Canada/CNSC Data for Port Hope

(Peer reviewed by Independent epidemiologist Dr. Eric Mintz, 2004)

- Causes of death 1986-92 significantly higher than Ontario include: hereditary, neurological, cardiovascular, respiratory diseases; cancers, including lip and oral cavity, pharynx, gallbladder, lung, trachea, bronchus, bone.

1998 Health Canada Great Lakes Health Effects Program Health Study on the Population Around Port Hope Harbour

“For a given uranium intake the inhalation pathway gives doses 200 times greater than ingestion” –

***Ontario MOE Rationale Document,
Draft Uranium in Air Standard, 2010***



Scale: 1" = 355.7 Meters

ANNUAL VALUES FOR GROUP: ALL
Comsec Port Hope Conversion Facility - Model Run April 10, 2005

Max = 0.05523 (717014.3, 4600872)

Figure 2. Annual Uranium Point-of-Impingement Model

Cameco Port Hope



**Radioactive material parked in public roadway beside restaurant.
Port Hope, March 2018. Source of truck not known.
Emissions. No security.**



Doses from UO₂ Transportation

transport of natural UO₂ also adds to the annual gamma radiation dose, not only to the driver but also to others on the road, and residents in the vicinity. The Environmental Review (SENES 2007) estimates an annual dose of 170 $\mu\text{Sv}/\text{yr}$ for a driver exposed to incoming material for 44 hours (asThe transport of natural UO₂ also adds to the annual gamma radiation dose, not only to the driver but also to others on the road, and residents in the vicinity).

The

The Environmental Review (SENES 2007) estimates an annual dose of 170 $\mu\text{Sv}/\text{yr}$ for a driver exposed to incoming material for 44 hours (assuming 66 trips of approximately 40 minutes each with a 20' or 40' truck). The dose to a member of the public from incoming material (assuming 33 hours of exposure) is estimated to be 1.7 $\mu\text{Sv}/\text{yr}$ to 3.2 $\mu\text{Sv}/\text{yr}$ (for 20' and 40' trucks respectively). The dose to a driver exposed to outgoing material is estimated at 400 $\mu\text{Sv}/\text{yr}$, assuming 125 hours of exposure over 25 trips.

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Zircatec Environmental Review 2007

The U.S. recognizes diseases caused by exposure to radiation in the nuclear industry

- U.S. Dept. of Justice recognizes in law 35 diseases as associated with ionizing radiation exposure; compensation is paid to the military, nuclear workers, community down-winders (Radiation Exposure Compensation Act).
- Energy Employees Occupational Illness Compensation Program Act recognizes harm to nuclear energy workers and pays compensation.
- As of 2019 almost **\$17 billion** has been paid in medical costs and compensation nationally.

PHCHCC Recommendations

- 1. Issue 5 Year individual licenses for Peterborough and Toronto sites**
- 2. Allow no changes to operations at either property except to begin to reduce levels and quantities of U on site and outputs**
- 3. Within that 5 year timeframe finalize decommissioning plans for each facility, Peterborough and Toronto, with the appropriate financial guarantees in place, to successfully dismantle buildings and restore properties for future unencumbered use by the people.**
- 4. Establish a final timeline for completion.**