



PORT HOPE COMMUNITY HEALTH CONCERNS COMMITTEE  
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Kiza Francis  
Environmental Assessment Officer  
Environmental Assessment and Protection Directorate  
Canadian Nuclear Safety Commission  
P.O. Box 1046, Station B  
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October 19, 2007

Dear Ms. Francis:

Re: Comment on Draft Screening Report, Environmental Assessment of the Proposed SEU (with BDU) CANDU Fuel Production, at Zircatec Precision Industries Inc's (Cameco) Port Hope Facility, September 2007

The Port Hope Community Health Concerns Committee is an incorporated non-profit organization of residents concerned about health issues relating to the operations and potential health and environmental impacts of two nuclear industries in our community. We are submitting the following comments on the above matter:

Please accept this submission on behalf of the Port Hope Community Health Concerns Committee with respect to the above-noted matter.

## **Section 1**

Once again, our Committee wishes to stress the lack of comprehensive health data on the current and former residents of our community. Because comprehensive independent studies still have not been done we submit that any conclusions that the operation of this plant have not resulted in harm to people, will not result in harm or that the risk of harm can be considered reasonable have no credible foundation. In fact, the contrary appears to be true. Limited federal data of cumulative health effects does in fact, show patterns of disease rates of considerable concern to us (in the following text), yet these statistics are repeatedly dismissed by CNSC staff and Commission members.

Our Committee also wishes to convey to you, the regulator, our sense of betrayal by the federal government, and the Atomic Energy Control Board, now the CNSC which has consistently delayed and avoided meeting its responsibilities to adequately protect the

people of Port Hope. Federal offices have continued to license radioactive and chemical heavy metal pollution on the basis of the As Low As Reasonably Achievable (ALARA) principle which serves and protects your industries, but not public safety or the Precautionary Principle which serves our public interests. Over time, your actions and decisions have eroded much public trust.

It is time to end “silos” of issues because that is not how we live with them. Hearings on this issue, meetings on that issue, environmental assessments on three projects at the same time, all impede a holistic understanding of our experience and appropriate protective measures. A broad understanding is required when such serious decisions are being made about our past, present and future. A panel review is essential to provide this process and enable full public participation.

We ask the Commission to respect the concepts of cumulative effects and residual impacts as articulated in the *Canadian Environmental Assessment Act*. Our life in Port Hope is not lived or measured in two year or five year license segments. What you have and continue to license has a lasting legacy for us. We submit that you cannot know the impacts to people and the environment of your past actions because the necessary baseline work has still not been done. For this reason, we believe that this project cannot meet the requirements of any Environmental Assessment until proper health studies are conducted, impacts are better understood and baselines established.

This CNSC Screening Level EA process is completely inadequate and makes a mockery of the intent of *the Canadian Environmental Assessment Act*. Every aspect of this process has been unacceptable.

### **Why a Panel Review is Essential for Our Community**

- CNSC does not require factual human health baseline data in Port Hope to meet the cumulative effects requirements of the CEAA;
- CNSC does not require factual environmental impact baselines, including the degree of ongoing deposition of uranium to our soil or accumulation in our bodies to meet the cumulative effects requirements of the CEAA;
- CNSC dismisses, without a factual base and with ill-informed and misleading comments, existing cumulative health data for Port Hope which shows disturbing disease trends that are suggestive of an environmental cause;
- CNSC dose calculations and dose levels attributed to workers and the public are incorrect and outdated and we reject them. They are based on an external whole body dose model that does not properly account for inhalational exposure of workers and the public. Inhalation is the predominant means of chronic exposure to both workers and members of the public.
- CNSC continues to argue that there is a level of uranium particulate (and fluoride, ammonia, nitrates etc.) that the men, women and children of our town can inhale each day. This enables these operations to continue without a buffer zone, despite public health and Ministry of the Environment warnings that there is no safe level of inhaled air particulate and especially micron radioactive chemical heavy metal

particles. The science is clear that there is no safe level of ionizing radiation exposure, and no safe level of heavy metal inhalation.

- CNSC did not ever disclose nor did CNSC require Cameco's disclosure of the presence of neutron radiation in Port Hope as a result of these operations, including from the trucks that pass through our town and beside our children, until it was discovered through independent monitoring by citizens;
- CNSC repeatedly failed to act in the public and worker interests since it has known for many years that Port Hope had no fire protection in the event of a radiological fire at either Cameco and Zircotec and no town evacuation plan. Citizens raised these concerns 10 years ago at public hearings;
- CNSC considers bringing 10s of tons of enriched uranium to the middle of our town a small project and assigned it a minimally scoped screening level EA when it clearly should have been a panel review from the outset;
- CNSC is a regulator whose job is to regulate based on risk, not to act in the public interest as is the National Energy Board. (CNSC Director Clarke, CNSC meeting in March, 2005 explaining why NEB has panel reviews).

### **Recommendation:**

**That the Canadian Nuclear Safety Commission recommend to the Federal Minister of the Environment that a broadly scoped review panel environmental assessment be ordered for the proposed Zircotec (Cameco) project in Port Hope on the basis that there is significant public controversy and concern, as well as clear risk to the people and their environment.**

## **Section 2:**

### **1. Application of the *Canadian Environmental Assessment Act* By CNSC**

For a variety of reasons our Committee disagreed with CNSC staff from the outset that this project was appropriate for a screening level assessment. A review panel is warranted.

- i. Inadequate Screening Process*
- ii. Lack of Baseline Studies*

#### *iii. Well Documented Public Concern in Port Hope:*

The Scope document stated that "CNSC staff is not aware of any potentially significant adverse environmental effects or public concerns associated with this project which would warrant a need to have it referred to a mediator or review panel pursuant to section 25 of the CEAA. Thus the appropriate type of screening will be a screening."

Public concerns are well known and documented by the CNSC itself on licensing and project issues relating to Cameco and Zircatec. Concerns have been expressed widely and consistently with respect to bringing more enriched uranium to Port Hope, exposure to radiation of workers and the public in Port Hope and the dangers presented by industries in our midst without buffer zones.

*iv. Potentially Significant Adverse Effects*

One example of potential danger for workers and the public is the increased volume of enriched uranium planned in this project. It increases the risks of criticality which present a significant risk to the people and the environment. Such a plan in the midst of a community should be subject to the rigour of the highest level of independent scrutiny for health, safety and security, and provide the highest level of public participation, not the lowest. Data and tables which formed part of the criticality information and requested as part of this EA process, were denied to us by the CNSC and Zircatec, saying it was proprietary to the industry. It made proper review of that document impossible.

*v. New Ownership*

ZPI has never before been the subject of public scrutiny through an environmental assessment process and now it is also under the new ownership of Cameco Corporation which has no experience that we are aware of in this particular business. Given Cameco's recent significant accidents at Cigar Lake and McArthur River mines, and now the loss of containment at Cameco's Port Hope UF6 operation, all known to the CNSC, we have every reason to question the ability of Cameco management to carry this project out safely in our town. Given that CNSC Chair Linda Keen has recently been reported as expressing the Commission's frustration with Cameco management, consider

*vi. Documented Failures of Cameco Management in Port Hope*

The October 15, 2007 report released by Cameco "Building 50 Subsurface Contamination Summary Report" tells us clearly that Cameco has not properly monitored and controlled its effluents. Cameco has been missing essential and obvious management processes, safety systems and engineering/process control features in its operations. The consultant shows that proper records were not kept and that Cameco changed the use of the Pit without deference to or compensating for the modification of its use from the original engineered function.

What is still not clear from Cameco or CNSC is the source and the end point of the contamination. The consultant describes the process but is unable to determine source (origin) due to mixing of contaminants since there is no proper monitoring or record keeping or sample archives, and by stating the south fence test hole/well show contamination from unknown origin. We are still waiting to hear how far the contamination has gone beyond the south fence.

## 2. Incremental Changes

At the CNSC Hearing, November, 2003 for Cameco's EA Guidelines for the proposed blending of Slightly Enriched Uranium (SEU) and Blended Dysprosium Uranium (BDU) at the its conversion facility in Port Hope, Andrew Oliver of Cameco informed the Commission that Cameco's predecessor Eldorado had experience with enriched uranium from 1966-1987. He noted it was "relatively small batches of material worked on, in **the sort of hundreds of kilogram ranges rather than hundreds of tonnes which we are talking about now, but there were variable levels of enrichment, even enrichment as high as 93 per cent as opposed to the 5 per cent we are working with now.**"

At the same hearing the former President of ZPI, Lloyd Jones, stated:

... **We are currently licensed, and have been actually for several decades, to process enriched uranium, actually to much higher levels of enrichment than this particular project would be.** So in terms of what we do within our facility, in process it would not be different than what we have done for many decades. The difference is in terms of the volumes of the material. **Although we have processed materials as high as 93 per cent enriched within our facility, we have not processed large commercial volumes.** They have been for specific projects which require smaller quantities of this material at any one time. The processes in which you handle them are identical. They are not any different. It just has to be scaled up.

In October, 2006 our Committee asked the CNSC for copies of special licenses it issued which allowed ZPI to have on its premises levels of 93% enriched uranium which we understand exceeded its licensed approval. The answer we received from CNSC staff Pascale Bourassa is that "no special licenses were issued to ZPI. The operating license sets the limit for the level of enriched uranium ZPI can possess. Amounts that would exceed this would have been allowed only upon AECB staff (this occurred before 2000) approval granted under the operating license held at the time."

It is not clear to us how 93% enriched uranium came to be authorized at both Eldorado and ZPI and this matter should be clarified as to whether here were actual licenses or letters, or verbal agreements that conveyed CNSC approval. The scope of the EA should include the history of site, details on these past practices and whether or not CNSC staff have discretion to authorize increased amounts of radioactive material on an incremental basis without an EA or seeking a license amendment.

## 3. Environmental Effects

The scope of the EA should include a detailed analysis of all emissions and the extent to which they are in compliance with current laws and pending laws from the Ministry of the Environment. There are many factors and questions that arise as a result of the mix of materials on site both historically and today, including the use of 93% enriched uranium, various particle sizes and combinations of materials.

The historical and current reports of ZPI to the CNSC/AECB should be fully and independently analysed and further comprehensive testing should be done both inside and outside the plant.

There is also a need to increase public accountability of this operation and the scope should deal with increased public reporting to the community and town council.

#### **4. Health Effects**

##### *i. Employee Health*

At a public meeting in January, 2006 Mr. Jones stated that he did not believe there were issues with employee health but when asked if any studies had been done on current and former employees he confirmed to the audience that none had been done. Comprehensive health studies of workers and former workers need to be done as part of the scope of this EA and a detailed health surveillance system put in place for the future. When one considers the 93% enriched uranium and other materials being used on site, then reviews the compliance reports of ZPI and sees the significant elevations of uranium dust in the compaction room for example, it is inexcusable to leave a workforce unmonitored for outcomes. Share info – make tests available – look in EA

The plan described by Dr. Patsy Thompson for evaluating human health is limited to workers and the workplace data collected on them and making further estimates of likelihood of impacts based on large scale studies. This is the perfect plan if one wishes to avoid finding out specific, useful health outcomes for the men and women who work at Zircotec and Cameco. It is completely inadequate however, for the purposes of a proper EA which is to evaluate cumulative effects and residual effects.

to compile a health profile that would address the concerns expressed that workers are dying quickly after retirement, workers when it comes to determining the health status of workers.

##### *ii. Public Health*

It is very disturbing that there is no plan to consider the actual health of the real people who live in Port Hope, particularly those who live within a 1000 metre radius of the sites. It is a simple straightforward matter to put in place a well designed plan for biological testing, for statistical studies of disease rates including incidence, to follow up on suspicious disease rates. Once again, a nuclear project is proposed for which a study of human health is not considered appropriate. It is impossible

### iii. Port Hope Elevated Disease Trends

a) **Cancer Incidence Study (Health Canada/CNSC, 2000)  
Cancer and General Mortality Study (Health Canada/CNSC, 2002**

a) We have yet to receive an explanation for why the Government of Canada recognizes only leukemia, lung, breast and thyroid as sentinel cancers when analyzing Port Hope disease data and yet the U.S. Veteran's Administration and the U.S. Dept. of Justice recognize almost ten times as many to be associated with radiation exposure and provide compensation to Atomic Veterans exposed to radiation?

<b>U.S. veterans' administration for atomic Veterans</b> - conditions recognized by statute or regulation as associated with radiation exposure	<b>Health Canada/CNSC</b> -conditions associated with radiation in port hope cancer and mortality studies "sentinel cancers" (2000,2002)
1. leukemia, lymphoid (except chronic lymphatic leukemia)	1. leukemia
2. leukemia, myeloid	2. lung cancer
3. leukemia, monocytic	3. breast cancer
4. leukemia, hairy cell	4. thyroid cancer
5. leukemia, other	
6. leukemia, unspecified cell type	
7. thyroid cancer	
8. breast cancer	
9. lung cancer (trachea, bronchus and lung)	
10. bone cancer	
11. liver cancer, primary	
12. skin cancer	
13. esophageal cancer	
14. stomach cancer	
15. colon cancer	
16. pancreatic cancer	
17. kidney cancer	
18. urinary bladder cancer	
19. salivary gland cancer	
20. multiple myeloma	
21. posterior subcapsular cataracts	
22. non-malignant thyroid nodular disease	
23. ovarian cancer	
24. parathyroid adenoma	
25. malignant tumours, brain and central nervous system	
26. lymphomas other than hodgkins disease	
27. cancer, rectum	
28. cancer, small intestine	
29. cancer, pharynx	
30. cancer, bile duct	
31. cancer, gall bladder	
32. cancer, renal pelves, ureters, urethra	
33. cancer, prostate	
34. brochio-alveolar carcinoma	
35. benign neoplasms, brain and central nervous system	

36. other malignancies not listed in the preceding diagnoses	
Other conditions may be recognized in future	

**b) Independent analysis in February 2004 by Dr. Eric Mintz**, Epidemiologist, of the limited data in the two Health Canada/CNSC reports cited above identifies significant trends for Port Hope –examples below – which were not considered important by CNSC staff with the exception of cardiovascular disease:

Condition	Dr. Mintz Analysis
1. deaths -overall	13% elevation in Port Hope 1986-1997
2. cancer deaths-childhood	48% more than expected
3. leukemia -childhood	41% more than expected
4. lung cancer	elevated for men and women in different time periods; female rates significantly elevated 1986-1996
5. brain cancer -adult	elevated for men and women; women more than twice the expected rate 1986-1997 and significantly elevated entire study period
6. brain cancer-childhood	50% elevation entire study period; 4 times expected rate 1971-1985
7. Non-Hodgkins Lymphoma – childhood	statistically significantly elevated entire study period
8. nasal/sinus cancer	significantly elevated for men; over 5 times expected rate 1971-1985
9. esophageal cancer	twice expected rate for men 1971-1985; women have 50% excess entire study period
10. lip	more than twice expected rate for men 1986- 1996
11. bone	More than twice the expected rate for men 1986-1996
12. colorectal cancer	38% elevation for women 1986-1996
13. circulatory disease	15% excess deaths (300) over 42 year period – more than 7 per year. Female death rate rose dramatically 1986-1996 with 100 more deaths than expected.

**c) Excerpt from a PHCHCC Response to Low Level Radioactive Waste Management Office on the subject of health studies, published in the Port Hope Evening Guide September, 2007**

In the August 22, 2007 Port Hope Evening Guide article “PHAI a day late and a dollar short, NRCan says”, Ms Sue Stickley on behalf of the Low Level Radioactive Waste Management Office, is quoted as saying “there have been eight different health studies done, and results are generally that there is no evidence of any effect on the public”.

These comments from the LLRWMO perpetuate inaccurate and misleading information and ignore the inability by design of past reports to pinpoint causes of elevated disease rates in our community. The necessary health studies have never been done.

The reports referred to by Ms. Stickley could not and did not exclude our daily external and internal exposures to radioactive and heavy metal materials from industry emissions and its wastes as causes of elevated disease trends. In fact, three of the eight reports cited by LLRWMO are risk assessments, not health studies, which describe the contaminants in Port Hope and guess at health outcomes for us. Four more of the eight reports are high level statistical reports which can only paint a broad picture to help guide detailed investigations, which never happened.



That leaves only one of the eight reports which the LLRWMO considers Port Hope “health studies”, that examined the circumstances of individuals in Port Hope with a particular disease. This “Study of Health Effects of Low Level Exposure to Environmental Radiation Contamination in Port Hope 1984 (Lees R.E., et al.) selected Port Hope people with lung cancer who fit other criteria, then looked at each person’s exposures to residential radon gas. The study involved less than forty residents, and did, in fact, show an association between exposure to radon gas in Port Hope and incidence of lung cancer, contrary to what we have been told. This study finding was confirmed by Dr. Eric Mintz, epidemiologist, and the Peer Review team for Port Hope Town Council. It is important to note that this result was not publicized then or now (as we see from the LLRWMO reports and comments), and another study of this kind was not conducted after these results were known to the government in 1984.

Two of the statistical reports are the self-described “blunt tool” CNSC/Health Canada reports on cancer and mortality for Port Hope in 2000 and 2002. The data show unexplained elevations in diseases in various time periods for: the overall death rate, child cancer deaths, child leukemia, child brain cancer, child non-Hodgkins lymphoma, nasal/sinus cancer, esophageal cancer, brain cancer, colorectal cancer, lung cancer, bone cancer, lip cancer and circulatory disease. Dr. Eric Mintz, an independent epidemiologist who reviewed the data for the Canadian Nuclear Safety Commission and our Committee wrote two reports in which he said that “the patterns of several cancer rates...are consistent with environmental contamination” and “...along with the brain cancer, colon cancer and some of the rare cancer results, the available evidence points to there being problems in Port Hope”. Since the necessary follow up investigations were avoided, the available evidence suggests that effects on the public of these contaminants are very possible, not the opposite which LLRWMO and other federal offices would have us believe.

Another statistical report on their list is the “Great Lakes Health Effects Program Health Study (Health Canada) on the Population around Port Hope Harbour, 1998”, which had limitations including that it did not focus solely on people within our municipal boundaries. However, data in that report show selected causes of death 1986-92 significantly higher than Ontario in the Port Hope area included: hereditary diseases and degenerative diseases of the central nervous system, multiple sclerosis, Parkinson’s disease, cardiovascular and respiratory diseases, and cancers of the lip and oral cavity, pharynx, gall bladder and bile ducts, trachea, bronchus and lung, bone, connective tissue, skin, and others. This report, by its design, could only suggest possible causes which certainly stated environmental contaminants. Again, no follow work was done.

With respect to workers, a 2004 abstract for a Canadian National Defense Report “Adverse Impact of the CANDU Nuclear Fuel Cycle” states that “national and international studies of nuclear industry workers showed statistically significant increases in all types of cancer with increased cumulative radiation dose. In Canadian industry studies, lung cancer and Non-Hodgkin’s and Hodgkin’s lymphoma were found to be the most frequent cancers amongst Beaverlodge and Port Hope workers” and “In a review of birth defects near Ontario nuclear power plants, statistically significant incidences in Down Syndrome were found at Pickering and Bruce and Leeds/Grenville between 1978 and 1988. Increased incidence of thyroid cancer in Ontario over the past few decades requires further research to determine whether its rise is causal or coincidental with CANDU power plant emissions”.

## **5. CNSC Delegation of Assessment Studies to Zircatec Precision Industries**

Our Committee is very concerned at the intended CNSC staff reliance on ZPI, the proponent, to provide information and studies which will form the basis for conclusions

on which staff recommendations will be based. This is particularly troubling when the public will not even have the limited opportunity for oral interventions at a hearing before decisions are made on this project. This is a completely inadequate process from the outset which deprives the people of Port Hope of opportunities to be properly heard or to effectively influence the outcomes.

In addition to the fundamental flaws in this planned process, we have previously brought to the attention of the CNSC staff and Commissioners our serious concerns with several matters involving ZPI and information:

- i. In our oral and written submissions and at the mid-term licensing hearing for ZPI in February, 2005 our Committee objected to the nature of the information distributed locally and to town council by Zircotec former President Lloyd Jones regarding the hazards of radiation;
- ii. In February, 2006 our Committee made a submission to town council as well as the CNSC providing a critical analysis of the Morrison Hershfield consultants' report on fire issues at ZPI with which we had a number of concerns.

<b>6. Further Questions and Concerns</b>
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Thank you,

Yours truly

Faye More  
Port Hope Community Health Concerns Committee