Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

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Written submission from Peter Harris

Mémoire de Peter Harris

In the Matter of

À l'égard de

Application to consider a 1-year licence renewal from Cameco Corporation (Cameco) for its Cameco Fuel Manufacturing Inc. (CFM) facility

Demande de renouvellement de permis d'un an, présentée par Cameco Corporation (Cameco) pour son installation de Cameco Fuel Manufacturing Inc

Public Hearing - Hearing in writing based on written submissions

Audience Publique - Audience fondée sur des mémoires

December 2021

Décembre 2021

Canada

I, Peter Harris, file this intervention in response to the Canadian Nuclear Safety Commission's ("CNSC") Notice of Hearing in Writing and Participant Funding dated April 12, 2021 concerning the license renewal application of Cameco Fuel Manufacturing Incorporated in Port Hope, Ontario. I wish to submit this intervention orally during CNSC hearings.

I am the parent of children who attended a school 25m from a CNSC licensed facility. I am submitting this intervention because it continues to be my concern that the CNSC licenses activities and facilities that it should not; in close proximity to residential housing and schools.

1. Introduction

The Canadian Nuclear Safety Commision's licensing of facilities in Port Hope, Toronto and Peterborough allows for nuclear processing facilities in close proximity to residential housing and schools contrary to international norms and standards established by the International Atomic Energy Agency (IAEA).

Recent developments in mineral trusts has resulted in massive quantities of uranium being purchased for no reason other than speculation. It seems likely that significant quantities of uranium are being stored in Port Hope "in perpetuity" for speculative purposes either as uranium oxide (U_3O_8) or uranium hexafluoride (UF_6).

This intervention seeks to determine if the CNSC has adequately considered the implications of this speculation and if uranium is being held by Cameco Port Hope for speculative purposes that licensing adequately protects residents of Port Hope.

2. Speculative Uranium and The CNSC's Role in Licensing Activities Related To Its Mining, Processing and Storage

In April of this year, Sprott Physical Uranium Trust purchased Uranium Participation Corporation (UPC) with a claim that it had an "expertise in managing mineral commodities" having managed other mineral commodities such as gold and silver in the form of trusts. These trusts are established to allow investors to hold minerals such as gold and silver directly by purchasing Sprott shares. Sprott then purchases the mineral on behalf of the investor and employs a "custodian" such as the Royal Canadian Mint for gold or Cameco in the case of uranium.

Since acquiring UPC, Sprott has undertaken an ambitious campaign to drive up the price of uranium, with some suggestions that there has been an attempt to "corner" the uranium market. For example, Sprott claims it has purchased 11.8 million pounds of uranium between August 17th and October 7th alone. Other companies are

jumping on the bandwagon with the world's largest producer of uranium (Kazatomprom) announcing its own physical uranium trust on the 18th of October. As of November 12, 2021, Sprott currently holds 39,296,955lbs of uranium oxide (U_3O_8) and 300 000 total kg U of UF_6.[1] This represents an amount that is several times that used by all of Canada's nuclear reactors in a year and is approaching that consumed by all 104 reactors in the United States for an entire year.[2]

The purchase of uranium appears to be driven at least in part by Reddit speculation, with more than one news source reporting on this speculation. However, projections indicate that demand for uranium is unlikely to increase substantially before 2030 with uranium use currently declining in nearly all jurisdictions with an exception of China.

Canada has therefore seen millions of pounds of uranium recently purchased for speculative reasons only. The lack of demand in the immediate future for uranium suggests that it is likely that the uranium purchased by Sprott and others will remain in storage until demand increases - presumably some time after 2030. Sprott's CEO and other investment advisors claim that uranium held in trust will be held in perpetuity. Sprott uses this claim as an argument that its trust is not attempting to corner the uranium market.

Treating uranium as a commodity - like wheat, oats or gold ignores the fact that it is a regulated substance. It is a regulated substance because its mining, processing and storage has consequences for the environment and for human health. In this way, uranium is more like something like fentanyl than wheat. Fentanyl, a controlled substance, is not traded as a commodity. Uranium also has only one end use. Unlike gold, silver, wheat or other commodities, use of uranium is determined by a single industry with a single goal of producing energy.

Asides from the obvious concerns that rampant uranium speculation may have on uranium production and prices, it also raises questions about the CNSC's role in abetting this speculation. For example, do license conditions allow for storage of speculative uranium anywhere uranium is allowed to be stored? If so, I suspect that residents of Port Hope would be surprised and dismayed to learn that there may be uranium being stored "in perpetuity" to meet the demands of reddit trends. Likewise, could speculative uranium be stored in downtown Toronto or Peterborough - adjacent to residential housing and a school?

1. *Units reported are as found on Sprott's website. It is unclear if investors understand that U3O8 represents only 85% uranium. Between Nov. 12 and 16, Sprott's uranium holdings increased by 3,000,000 lbs.*
2. *Consumption of uranium in Canada is estimated to be 3,800,000lbs/year. Consumption in USA is estimated to be 55 000 000 lbs/year*

Despite having reviewed all of the Commission Member Documents and external resources in preparing this intervention as well as asking similar questions of CNSC staff, these information requests did not yield adequate responses and require the attention of the CNSC[3], both to inform your deliberations on this matter and to further the dissemination of information to the public, per the objectives of the CNSC set out in s 9 of the *Nuclear Safety and Control Act.*

Since CNSC licenses do allow Cameco to act as Sprott's uranium "custodian" and for Uranium Realty Corporation to operate a "storage account" at Cameco Corporation's Fuel Services facilities, I accordingly request the Commission respond to and provide information regarding the following:

1. Where is uranium being stored for speculative reasons in Canada? In what form (U_3O_8, UO_2, UF_6 etc) is it stored at these locations? Who owns the uranium? How much is stored at each of these locations?

2. What license provisions allow for the storage of uranium for speculative purposes? Do these license provisions allow for the storage of uranium for speculative purposes in Port Hope, Peterborough and Toronto?

3. Do CNSC licenses allow for indefinite storage of uranium for third parties - that is in perpetuity as claimed by Sprott's CEO - John Ciampaglia, and other investment experts? If so, do storage methods reflect the "perpetual" nature of Sprott's purchases?

4. Is Cameco allowed to store enriched uranium purchased for speculative purposes? If so, what mass of material is permitted, at what level of enrichment and for what time frame?

5. Does the CNSC play a role in allowing speculative purchases of uranium and does your role sanction these speculative purchases?

6. Why hasn't the CNSC made an attempt to discourage rampant speculation by correcting false claims that uranium is a "clean, carbon neutral " energy source when the CNSC's very existence is owed to uranium's dangers?

7. As consumers, we accept additional fees on products such as tires and electronics to reflect the cost of safe disposal of these materials. Why doesn't the CNSC enforce policies that reflect the true cost of uranium's sole use and the end products resulting from this use?

3. *PLease see the addendum attached to this document for the response of CNSC staff to requests for more information.*

8. How will the CNSC respond if the market demands further speculative purchases of uranium requiring long term storage of processed uranium? Has the CNSC considered the implications if speculative purchases do "corner" the uranium market? What happens if another nuclear accident dampens the appetite for uranium?

3. Conclusion and Requests to the Commission

In providing this intervention to the CNSC, I would like to emphasize the unique nature of Port Hope, Peterborough and Toronto's class I nuclear facilities. The CNSC allows the processing and storage of uranium in close proximity to schools and residential housing contrary to international norms. Concerns about speculative purchases of uranium are driven by the proximity of these facilities to our homes and schools.

The essence of the As Low As Reasonably Achievable (ALARA) principle is that NO dose of radiation is acceptable if there is no direct benefit to the individual receiving the radiation. This is also referred to as the Principle of Justification. If exposure to radiation is deemed necessary, the ALARA principle holds that exposure should be decreased by minimizing the time of exposure and increasing the distance to radioactive sources. That is, according to the ALARA principle, radiological risks are minimized by decreasing the length of time that the vulnerable are exposed to radiological sources and by positioning sources of radiation as far from the vulnerable as possible.

Therefore, storing large quantities of uranium for long periods of time in close proximity to residential housing is in opposition to the ALARA principle and in contravention of IAEA standards. Both are required considerations under the *NSCA* and the CNSC's Regulatory Documents.

Producing, refining and storing speculative uranium "in perpetuity" ***anywhere*** for the avarice of speculators is in violation of the ALARA principle - and in particular the principle of justification. These are principles that the CNSC is bound to uphold. For these reasons, I ask that the CNSC:

- Require as a condition of licensing that Cameco undertake studies to determine the true human and environmental costs of uranium mining, processing, storage and disposal.
- Regulate uranium as a controlled substance and not as a commodity.
- Ensure that the true human and environmental costs of uranium production, refinement and use is reflected in uranium purchases.
- Ensure that storage facilities reflect the perpetual nature of uranium holdings.
- Uphold the ALARA principle in licensing nuclear activities and facilities

- Require as a condition of licensing that Cameco have an ongoing duty to disclose how much uranium is being stored at their site, its origins and ownership.
- Require as a condition of licencing that Cameco disclose a business plan for the duration of its license.
- Undertake efforts to correct false claims on the part of the nuclear industry regarding the environmental impact of mining, refinement, storage and use of uranium.

Thank you for your consideration.

Peter Harris

Addendum - Email Communication With CNSC Staff

Nov 16, 2021

Dear Mr. Harris,

Thank you for contacting the Canadian Nuclear Safety Commission (CNSC).

In response to your questions, CNSC regulates the use, possession and storage of all nuclear substances in Canada. This includes the safe management of uranium. However, strategic/business reasons for the management of uranium are not tracked or considered as part of CNSC's regulatory oversight activities. Specific to your question about Cameco, they do not to store enriched uranium purchased for any strategic purposes at any of their CNSC-licensed facilities. The remaining questions posed fall outside the scope of CNSC's mandate.

Thank your for your questions and please do not hesitate to contact us with any further questions or comments via the CNSC general inquiries mailbox (cnsc.info.ccsn@cnsc-ccsn.gc.ca).

Bianka Bercier
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Canadian Nuclear Safety Commission / Commission canadienne de sûreté nucléaire
Government of Canada / Gouvernement du Canada
cnsc.info.ccsn@canada.ca Tel: 613-995-5894 / 1-800-668-5284

Oct 26, 2001;

Dear Mr Fundarek and McAllister

Earlier this year, we asked you questions about uranium and its storage in Peterborough - specifically who owned the uranium stored in Peterborough. In Peterborough's case, you stated that the uranium stored at BWXT's facilities was owned by Ontario Power Generation.

Subsequent to your response, there have been a number of developments that have caused myself and Faye More of the Port Hope Community Health Concerns Committee (PHCHCC) to question where uranium is being stored in this country and for what purpose.

These developments revolve around Sprott Physical Uranium Trust and its predecessor - the Uranium Participation Corporation (UPC). Sprott purchased UPC in April of this year - claiming to have an expertise in "managing mineral commodities".

Since April, Sprott has undertaken an ambitious campaign to drive up the price of uranium, with some suggestions that there has been an attempt to "corner" the uranium market. For example, Sprott claims it has purchased 11.8 million pounds of uranium since August 17th alone. Other companies are jumping on the bandwagon.

The purchase of uranium appears to be driven at least in part by reddit speculation, with more than one news source reporting on this speculation. However, projections indicate that demand for uranium is unlikely to increase substantially before 2030 with uranium use currently declining in almost all jurisdictions but China.

Given the above, we have seen millions of pounds of uranium recently purchased for speculative reasons only. With the lack of demand in the immediate future for uranium it seems likely that the uranium purchased by Sprott and others will remain in storage until demand increases - presumably some time after 2030.

As citizens living in municipalities that host uranium processing and storage facilities we are deeply concerned by the above. Treating uranium as a commodity - like wheat, oats or gold ignores the fact that it is a regulated substance. It is a regulated substance because its mining, processing and storage has consequences for the environment and for human health. In this way, uranium is more like something like fentanyl than wheat. Fentanyl, a controlled substance, is not traded as a commodity.

In Peterborough, Port Hope and Toronto the CNSC has ignored the ALARA principle, allowing processing and storage facilities in close proximity to residential housing and schools. It is therefore of particular concern to us that increased processing and storage of uranium is being driven by reddit trends and not necessity.

To help us to understand how Cameco is using its license to act as Sprott's uranium "custodian" and for Uranium Realty Corporation to operate a "storage account" at Cameco Corporation's Fuel Services facilities, we ask the following questions;

1. Where is uranium being stored for speculative reasons in Canada? In what form (U3O8, UO2, UF6 etc) is it stored at these locations? Who owns the uranium? How much is stored at each of these locations?

2. What license provisions allow for the storage of uranium for speculative purposes? Do these license provisions allow for the storage of uranium for speculative purposes in Port Hope, Peterborough and Toronto?

3. Do CNSC licenses allow for indefinite storage of uranium for third parties - that is in perpetuity as claimed by Sprott's CEO - John Ciampaglia, and other investment experts ? If so, do storage methods reflect the "perpetual" nature of Sprott's purchases?

4. Is Cameco allowed to store enriched uranium purchased for speculative purposes? If so, what mass of material is permitted, at what level of enrichment and for what time frame?

5. Is Cameco allowed to store uranium recycled from fuel cycles for speculative purposes? If so, what mass of material is permitted and for what time frame?

6. Does the CNSC play a role in allowing speculative purchases of uranium and does your role sanction these speculative purchases?

7. Why hasn't the CNSC made an attempt to discourage rampant speculation by correcting false claims that uranium is a "clean, carbon neutral " energy source when the CNSC's very existence is owed to uranium's dangers?

8. As consumers, we accept additional fees on things like tires and electronics to reflect the cost of safe disposal of these materials. Why doesn't the CNSC enforce policies that reflect the true cost of uranium's sole use and the end products resulting from this use?

9. How will the CNSC respond if the market demands further speculative purchases of uranium requiring long term storage of processed uranium? Has the CNSC considered the implications if speculative purchases do corner the uranium market?

We would like to emphasize the unique nature of Port Hope, Peterborough and Toronto's class I nuclear facilities. The CNSC allows the processing and storage of uranium in close proximity to schools and residential housing contrary to international norms. Our concerns about speculative purchases of uranium are driven by the proximity of these facilities to our homes and schools. The two main tenets of the ALARA principle require decreased time of exposure and increased distance to radioactive sources. Storing large quantities of uranium for long periods of time in close proximity to residential housing is in opposition to the ALARA principle and in contravention of IAEA standards.

With thanks,

Peter Harris for (Citizens Against Radioactive Neighbourhoods)