Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Public hearing

Audience publique

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Public Hearing Room
14th floor
280 Slater Street
Ottawa, Ontario

Salle d'audiences publiques
14e étage
280, rue Slater
Ottawa (Ontario)

Commission Members present

Commissaires présents

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Dr. Moyra McDill
Dr. Ronald Barriault

M. Michael Binder
Mme Moyra McDill
Dr Ronald Barriault

Secretary:

Secrétaire :

Mr. Marc Leblanc

M. Marc Leblanc

Senior Counsel :

Conseiller principal:

Mr. Jacques Lavoie

M. Jacques Lavoie

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Ottawa, Ontario

--- Upon commencing on Thursday, August 11, 2011
at 1:37 p.m.

Opening Remarks

MR. LEBLANC: Good afternoon. Bonjour, mesdames et messieurs. Bienvenue à cette audience publique de la Commission canadienne de sûreté nucléaire.

Mon nom est Marc Leblanc, and I will talk about a few things pertaining to this hearing.

The Canadian Nuclear Safety Commission is about to start one public hearing on the application from Viterra Inc. for a redetermination of the Commission Order issued on November 27th, 2009.

During today's business we have simultaneous translation. Des appareils de traduction sont disponibles à la réception. La version française est au poste 2 and the English version is on Channel 1.

I would ask you to please keep the pace of speech relatively slow so that the translators can keep up.

L'audience est enregistrée et transcrite textuellement. So transcripts will be made in the

official language that is used during the hearing. The transcripts will be available on our website next week.

I would also like to note that this proceeding is video webcasted live and that the proceeding is also archived on our website for a three-month period, so you can go and see your performance soon after the hearing.

To make the transcripts as meaningful as possible, we would ask everyone to identify themselves before speaking.

And as a courtesy to others in the room, please silence your cell phones and other electronic devices.

Monsieur Binder, président et premier dirigeant de la CCSN, va présider l'audience publique d'aujourd'hui.

Mr. President.

THE CHAIRMAN: Merci, Marc.

Good afternoon and welcome to the public hearing of the Canadian Nuclear Safety Commission.

Mon nom est Michael Binder. Je suis le président de la Commission canadienne de sûreté nucléaire. Je souhaite la bienvenue aux gens ici présents et à ceux qui se joignent à nous par web diffusion.

I would like to begin by introducing the

Members of the Commission. On my right is Dr. Moyra McDill. To my left is Dr. Ronald Barriault.

You just heard from Marc Leblanc, the Secretary of the Commission, and we also have, Mr. Jacques Lavoie, Senior General Counsel of the Commission with us here today.

Before adopting the agenda, please note that one supplementary Commission Member Document was added to the agenda after the publication on July the 5th, and with this information, I would like to call for the adoption of the agenda by the Commission Members as outlined in CMD 11-H8.A.

11-H8 / 11-H8.A

Adoption of Agenda

THE CHAIRMAN: Do I have concurrence?

For the record, the agenda is adopted.

So after disposing with these administrative issues, let’s proceed with the Viterra application.

Before hearing a presentation from Viterra, Marc, I guess you’ve got to say some things here.

MR. LEBLANC: Okay.

So as people know in this room, this is a

one-day public hearing. The Notice was published on June 27, 2011.

We have received submissions from Viterra and CNSC staff and these were due on July 4, 2011.

And August 3rd was the deadline for filing of supplementary information. I note that Viterra and CNSC Staff did file additional information.

Monsieur le président.

THE CHAIRMAN: So let's start the hearing by calling on the presentation from Viterra as outlined by Commission Member Document H6.1, H6.1A, and I understand that Mr. Michael Edmonds will make the presentation.

Mr. Edmonds, the floor is yours.

Viterra Inc.:
Application from Viterra Inc.
for a redetermination of the
Commission Order issued on
November 27, 2009

11-H6.1 / 11-H6.1A
Oral presentation by
Viterra Inc.

MR. EDMONDS: Michael Edmonds, for the

record.

To start with the presentation, we start with the history of the facility. Viterra had leased 12 acres of property to ESI to extract the uranium from the phosphoric acid.

A designated order was issued to ESI in 2006 upon Viterra's taking legal possession of the property. That order was issued to Viterra, or WESTCO then, in 2008, and we had a redetermination of the order in 2009 which extended the deadline for compliance date to December 1st, 2011.

As required under the 2008 order, we were required to submit a remediation plan by July of 2008. We did comply with that requirement, and during the review process of the CNSC, we took the opportunity of that timeframe to remove some of the health and safety hazards that were associated with the property.

Now, these materials weren't a component of the order, but they were an issue related to occupational health and safety. In the end, from 230,000 kilograms of debris and general waste was removed, and that allowed access of our workers onto the site.

Additionally, during that same timeframe, we completed a DSS, a designated substance survey, of the interior of the building. The conclusions were, and based

on those conclusions, 8,600 kilograms of asbestos and other hazardous materials were removed, and that then allowed us to then initiate the remediation programs that we had submitted and that were authorized to proceed in July of 2009.

Following that authorization and later in 2009, we proceeded to decontaminate, remediate the process equipment of the uranium dryer room. That was completed during the end of 2009. The report for closure of that program was submitted in 2010.

While these operations were ongoing, we had also developed the demolition plan for the uranium dryer room, and that was accepted in, I believe, March of 2010.

Prior to completing or initiating the demolition work, we had a structural inspection completed for the building. That concluded that we were unable to demolish the uranium dryer room separately from the remaining portion of the building due to poor structural integrity.

As a result, we then had to remove some one million litres of fats, oils and greases that were stored in tanks located within the building.

Again, this wasn’t a requirement under the order, but clearly it was a requirement so that we could satisfy the requirements of the order. This was a three-

month process alone. The materials had solidified in the tanks. We did have to steam them to make it liquid. Clearly, we had to find a disposal location that would take it, and then arrange the health and safety programs around that operation.

Finally, on completion of that, we did start to demolish the building. We did that in a fashion where the uranium dryer room was left until last. That allowed us to ensure that the radioactive impacted materials were maintained separate from the other construction debris.

I might add here that there was another 60,000 odd litres of waste oil stored in totes scattered around the property. It was clear to us that there was an environmental issue with that and we had that disposed of during the same time.

While this was occurring, we proceeded to prepare the remediation plans for the evaporation ponds. That was submitted in December of 2010.

Sorry, I will just go back just a little bit through the remediation of the CALCINER room. Actually, once we had pulled down the building, the weather held up for us. We had sufficient time to complete that requirement of the order in total. So we had pulled up the concrete slab of the CALCINER room,

excavated the radiological material and subsoils, collected confirmatory samples from the walls and base, and we are now under the UCL limits for the remaining soils.

That final closure report for the uranium dryer room was submitted in March. So now we're left with the evaporation ponds and certain links on radiological materials that were out of the calciner room.

As I stated, the remediation plan was submitted in December of 2010. Through communication supplemental information has been submitted to the CNSC staff. We updated the remediation plan in May of 2011 and incorporated a public dose evaluation assessment.

Our evaluation of the methodologies that we're using through that process we realized that there were some benefits completing the work in the winter months. We certainly had expected to do that in March of 2011 but there are reduced exposure risks to workers and the environment; hence why we have applied for re-determination.

This is our schedule. Should we be granted the extension, we feel that it's achievable to start the evaporation pond remediation in late February once freeze-up is complete. It's a 30-day process and we expect to have final submissions by late June.

I do want to confirm with you that the project management structure here -- certainly Viterra takes ownership of the program. We have retained the services of specialists in the management of radiation, monitoring, health and safety.

Certainly NormCan is represented here today by Mr. Cody Cuthill, General Manger of NormCan. Hazco has been retained and is under contract to complete the work.

Golder is represented by Dr. Ernest Becker and he will provide technical assistance in the development of the health and safety plans, also the development of the reports and other literature that is supplied to the CNSC staff.

And WorleyParsons is our environmental consultant who have been retained under contract and have provided a letter of evaluation of the risks during the period of 2011 and 2013 should we be granted that extension.

The next three slides here are put together to indicate the safety -- the health and safety aspects of the program and that was leading to the -- our risk projections. I wanted to show you that these will be utilized whether in our winter or spring program and they do not affect our projections. These aren't the affecting factors.

However, respiratory protection -- certainly we have respiratory cartridges on representatives workers that enter the controlled areas. We have log-in/log-outs. We have testing. Air sampling units will be established on the boundaries of the facility to ensure air quality.

Contamination control or thirdly, set up control station, clean clothing area, dirty clothing area, PPE area, wash down and testing areas.

The ecological exposure, it's really pertaining to the process following the remediation of the evaporation ponds and certainly it will be initiated as we stop pulling back the materials above the liners and the gamma radiation surveys will be used as a guide to give us an indication on the extent of that excavation, whether we need to go deeper.

Clearly that would be backed up with confirmatory samples and laboratory analysis.

What we have planned is for the vehicles, the transportation of the material. Certainly the vehicles will be swipe tested prior to leaving the facility. Wash stations will be on hand in the event that that is required and the materials itself will be placed in trucks that are lined with polyethylene liners that are watertight product. And so it will limit any residual

spills.

So having said that, what we have here is the -- our projection from the gamma radiations. There are two projections between a winter program which we intend to initiate as opposed to a spring or summer or really any other time of the year.

Ten (10) microsieverts for the winter for workers, 112 for the other portions of the year and that’s really a reflection of the process itself and the workers’ contact with the materials.

In winter, we'll be using excavators. There will be limited direct exposure. During the spring and summer, that material would have to be converted to a slurry so we'll be using water jets and hydrovacs which would create airborne particulates. The workers would be in direct contact with the material daily.

For truck operators, a similar situation; 6 microsieverts in winter, 29 at the other times of the year; again, a reflection of the schedule of the program. We expect the winter program to take 30 days. Spring and summer, because of that slurrying program, we expect that would take up to 120 days.

With regard to ecological exposure, the risks really pertain to the excavation or the removal of the sediments. Certainly as the materials are frozen,

there is a limited likelihood that the material will migrate should the liner be damaged.

However, during other times of the year where there's a high water content, should that liner become damaged, then a high potential for that to escape into the surrounding environment.

I might add that there is a -- both soils there have a high water table. So it could be an immediate effect if that was to be damaged.

So of course in developing the re-determination application, we wanted to evaluate what the risks were. We want to ensure that if a re-determination was granted that the risks would not increase because they were there.

The factors that we looked at were water quality, air quality and worker, public and ecological exposures. And certainly with the management plans that we have and that we have committed to maintaining, we continue to water sample monitoring wells that surround the pond enclosure. We do that annually.

We monitor the accumulated water within the ponds and we monitor the water that is in the drainage systems that surround the property.

Certainly over the last few years, those concentrations have remained static and below the UCL.

With regard to air dispersment and air quality, through winter there is a snow or ice cover preventing air dispersment and through the remaining portions of the year, we manage that issue by adding water and maintaining a water cover. We don't expect that that would change through the maintaining of that program.

And with regard to worker and public safety and ecological exposure, we have security processes in place. We have PPE programs in place and we have training programs in place. Each of those will be maintained.

So clearly the rationale for our two-year extension -- I've told you that we can do it in five months. There are factors that are outside of our control. These are real, real issues; certainly climatic conditions.

In a perfect world, it will be frozen for the full winter and that work can be done. However, if we have a warmer or a wetter season, then that prevents us from maintaining the schedule. That impacts the time that we're able to get out there and work.

In that event, we would like to move in the unfinished work into 2013, the winter. If that scenario occurred again, clearly we would implement the methodologies that were provided in the remediation plan for the spring and summer. We would complete that work on

time.

And certainly financial implications, and that's where it comes to the soil impacts. We don't know the extent, if any, of soil impacts below the liner. It's not something that we can offer at this time. And that won't be known until we start to remove those materials.

We are committed to completing it, no doubt, but if those impacts go severely deep, I might add that, the cost is significant for every metre that we look at.

Then we would like to defer the other pond to the following year just for that financial reason, but we wouldn't leave anything in place. The one full pond would be completed.

First to a summary of site work; this is work that is still required, it's outside of the CNSC control, but there is ecological hazards, there are health hazards here, and Viterra is committed to completing this work this year. We've retained the contractors to do the work. This will proceed in the next three weeks. And we have the budgets for it.

So the remaining 700,000 litres of fat, oil and grease will be removed. All above ground infrastructure will be removed. The foundation for the building will be removed. And we'll address any soil

issues.

My last slide here is just a summary. I know you asked me to speak slowly -- sorry -- and English likely.

But we have made substantial and significant progress. Certainly much of the work that we've completed has been indirectly related to the order. It's work that hasn't -- wasn't outlined as required, but certainly it was a step-by-step process where -- to implement or to complete -- the requirements of the order had to be completed.

So to that end nearly a quarter of a million kilograms of debris, a million litres of liquids. We've demolished the building. We've excavated and remediated the soil beneath that building, calciner room. And we've submitted the reports inclusive of the remediation plan for the evaporation ponds.

Given the benefits -- that is the lower risk to worker and environmental exposure -- we feel that the redetermination is warranted. We feel that the support of our evaluations of those risks of the materials remaining in place show that there are limited risks, and certainly would not increase the poor quality, if you will, of the groundwater and air.

That's it. Thank you very much.

THE CHAIRMAN: Thank you. Thank you very much.

I'd like to move now to a presentation by CNSC. I understand that Mr. Elder or Mr. Ravishankar is going to make the presentation. It says here -- I don't know who is saying it.

MR. ELDER: It will be a -- well, it will be a team effort.

THE CHAIRMAN: Okay, go ahead.

11-H6
Oral presentation by
CNSC staff

MR. ELDER: Good afternoon, Mr. President and Members of the Commission.

My name is Peter Elder, Director General, Directorate of Nuclear Cycle and Facilities Regulation.

With me at the front table today is Mr. B. R. Ravishankar, Director of the Processing and Research Facilities Division, and Mr. John Thelen, who is the Project Officer for this file but is also an Environmental Remediation Specialist as well. And we also have other members of our compliance team.

As you stated, we are here to present our

CMD 11-H6, which is a redetermination of an order issued by the Commission in November of 2009 to Viterra, and the redetermination again is related to the extension of the date for the clean-up by two years.

So during the presentation we will provide the Commission with some background information on the site and the history and scope of the CNSC order. So the following slides will also be explained, the CNSC compliance verification activities that have gone on to ensure Viterra has complied with the order.

In this regard, we will include a discussion of Viterra's clean-up plan, the clean-up work already completed, the staff's assessment of Viterra's extension request and the proposed schedule for clean-up, as well as our recommendations to the Commission.

I will now turn the presentation to Mr. Ravishankar for the next part.

MR. RAVISHANKAR: Thank you.

Good afternoon, Mr. President and Members of the Commission.

The following slides explain CNSC staff's efforts to ensure Viterra has complied with the November 2009 CNSC order.

This CNSC order requires the site, which is located in Calgary, Alberta, to be cleaned up by December

1, 2011. The site contains nuclear materials that exceed the unconditional clearance levels specified by the Nuclear Substances and Radiation Devices Regulations.

Unconditional clearance levels are intended to be generic criteria that when exceeded indicate whether nuclear substances warrant regulatory control. These nuclear substances are associated with prior activities conducted at this site under CNSC licence.

Viterra has requested for the redetermination of the CNSC order to extend the site clean-up deadline to December 1, 2013 in order to complete remedial activities during the winter.

CNSC staff concur that Viterra's proposed clean-up plan is the best option in terms of worker safety and protection of the environment. CNSC staff recommends to the Commission that they accept Viterra's request to extend the clean-up deadline by two years to December 1, 2013.

Viterra Incorporated is a global company that operates in four distinct businesses in Canada, grain handling and marketing, processing oats and canola, processing animal feed and agri products.

On November 3, 2008 Western Corporative Fertilizers Limited, also referred to as Westco, was amalgamated by Viterra's agri products segment. Westco

utilizes the majority of the site as a fertilizer production facility to purify fertilizer grade phosphoric acid. However, Westco leaves a portion of the property to Earth Science Inc., ESI Resources Limited.

The former ESI site incorporates approximately five hectares of land within the City of Calgary. The former ESI site's plant produced uranium oxide from phosphoric acid feed stock provided by the adjacent Westco fertilizer production facility. The phosphoric acid contained uranium which was concentrated and precipitated at this facility producing a uranium oxide precipitate. By-products of this activity were piped back to the adjacent Westco facility.

As shown in this aerial photo or the drawing the former ESI site is only a portion of a larger property owned by Viterra. This property is also adjacent to and surrounded by other properties owned by Viterra in the City of Calgary.

This slide provides a timeline for the former ESI site for activities between 1980 and 2006. The plant started uranium recovery activities in 1980. In 1987 the plant was shut down and did not resume operations for 10 years. In 1997 the plant operated again for phosphoric acid purification. This activity did not involve nuclear substances. This activity continued until

2001, at which point the facility remained in a shutdown state.

In October 2005 CNSC staff conducted an inspection of the site which confirmed that the facility remained in a shutdown state, and in November of the same year the Commission issued a nuclear fuel facility operating licence to ESI Resource Limited for the purpose of maintaining the uranium recovery facility in a secure shutdown state.

In June of 2006 CNSC staff conducted an inspection at the former ESI site and took samples which reveal contamination containing nuclear substances in the dryer room and evaporation pond.

ESI Resource Limited licence for this site expired on August 1, 2006. On August 30th of 2006 the CNSC issued an order to ESI Resources Limited. This order required ESI Resources Limited to decontaminate and dispose of nuclear substances from the former ESI site.

On September 9th, 2007, approximately one year later, Westco took possession of the former ESI site. At that time no clean-up of nuclear substances had been completed.

On November 19th, 2007 Westco, now in possession of the former ESI site, was issued a designated officer order to take specific actions and measures to

protect the environment and health and safety of persons. The designated officer referred the order to the Commission for review and the Commission issued a CNSC order to Westco on April 21, 2008. The 2008 CNSC order included requirements to clean up the former ESI site by December 1 of 2009.

On November 27, 2009, after a public hearing, the Commission issued a CNSC order extending the date to complete the clean-up by two years to December 1, 2011.

On June 1 of 2011, Viterra applied for a redetermination of the 2009 CNSC order pursuant to Section 43 of the *Nuclear Safety and Control Act*.

Viterra is presently requesting an extension of the deadline for the site cleanup from December 1, 2011 to December 1, 2013.

The CNSC order specifies that specific actions and measures are required by Viterra; this includes the submission of monthly update reports regarding any compliance related activities under the CNSC order, maintaining site security and develop and implement a plan for the clean-up of the former ESI site, including clean-up of nuclear substances in the dryer room, equipment inside the dryer room and in the evaporation pond.

As per the CNSC order, Viterra will perform the clean-up and disposal of nuclear substances in accordance with a plan that is accepted by the CNSC's Director General of the Directorate of Nuclear Cycle and Facility Regulation.

The CNSC order specifically addresses nuclear substances associated with prior activities at this site. This is limited to uranium recovery activities between 1980 and 2007.

The CNSC order does not address other onsite contaminants associated with other historic activities at this site. However, CNSC staff have been in contact with Alberta Environment and confirmed that Viterra has been addressing all of their investigation and remediation needs for Viterra property via interaction with Alberta Environment.

Going forward, Mr. John Thelen will continue with the presentation.

MR. THELEN: Thank you and good afternoon Mr. President and Members of the Commission.

This slide provides an aerial view of the former ESI site. The two areas at the former ESI site addressed in the CNSC order include the dryer room within the main process building and the evaporation pond.

The main process building is visible in the

right portion of this photograph. The dryer room is located within this building. It consists of a single room approximately 13 meters by six meters and it has not been used for uranium recovery since 1987.

Please note that this main process building no longer exists as Viterra has since decontaminated the dryer room and demolished this building which housed the dryer room.

Prior to its decontamination and demolition, it housed items associated with uranium oxide production including waste drums, tanks, pumps, piping, bag house filter assembly and a calciner unit.

The evaporation pond is visible on the left portion of this photograph. It is a 100-meter by 90-meter two-compartment structure formerly utilized for the retention of site surface water runoff and the operations' waste stream.

The perimeter of the evaporation pond is fenced and locked as was observed by CNSC staff as recently as August 4th, 2011.

Viterra has proposed remedial objectives for areas at the former ESI site addressed in the CNSC order.

Regarding the dryer room, a dryer room remediation plan and demolition plan were both submitted

by Viterra in 2009 and 2010.

These plans call for clean-up of all nuclear substances in the dryer room and confirmation that no contamination migrated below the dryer room. The selected clean-up criteria for uranium surface contamination set for the dryer room was 10 becquerels per square centimetre averaged over a one square metre area.

The selected clean-up criteria for uranium contaminated building materials and underlying soils was the CNSC unconditional clearance level of one becquerel per gram of uranium 238.

An evaporation pond remediation plan was also submitted by Viterra to address both pond excavation activities and the disposal of onsite waste containing nuclear substances.

This plan was originally submitted in December 2010 and later updated on July 26th, 2011.

With an estimated 4,000 cubic metres of sediment, the evaporation pond accounts for the largest amount of waste containing nuclear substances at the site. This plan calls for clean-up of all pond sediments, pond liners and an assessment of any underlying contamination in soil or ground water.

The selected criteria for uranium and pond sediments in underlying soils is CNSC's unconditional

clearance level of one becquerel per gram of uranium 238.

Currently uranium in the pond ranges in concentrations from below this unconditional clearance level of one becquerel per gram upwards to 25 becquerels per gram of uranium 238 and will be cleaned up as part of the proposed plan.

By setting CNSC unconditional clearance levels as the remedial objectives for this clean-up, this allows for the removal of nuclear substances from regulatory control.

Staff have reviewed and are in agreement with Viterra's proposed remedial objectives for these two areas.

Since the November 2009 hearing, Viterra has conducted several activities to address the requirements of the CNSC order. They include decontamination of the dryer room; submittal of a report confirming that decontamination of the dryer room and its associated equipment and contents; demolition of the building that included the dryer room; survey of the land under and surrounding the demolished building and submittal of a report confirming the demolition of the dryer room.

These submittals also included the results of field radiological surveys and laboratory sample

analyses to verify that remedial objectives have been met.

Based on these actions, CNSC staff consider that Viterra has adequately addressed the clean-up of the dryer room.

Viterra's evaporation pond remediation plan was submitted in December 2010 and as mentioned earlier, later updated on July 26th, 2011. The proposed plan contains details of the excavation, handling and transport of excavated materials. The proposed plan also addresses environmental monitoring and reporting to the CNSC including field radiological surveys and laboratory sample analyses to verify that remedial objectives will be met.

CNSC staff consider that Viterra's current plans when carried out will adequately address the clean-up of the evaporation pond.

This slide discusses waste containing nuclear substances associated with the CNSC order and Viterra's proposed plans to dispose of these wastes.

Dryer room waste requiring disposal were relocated to the fenced enclosure of the evaporation pond. These wastes consist of contaminated dryer room materials stored in sealed bins and drums and currently housed in two locked containers.

Approximately 80 cubic metres of contaminated soil from below the dryer room, this soil was

placed on a lined pad and has been covered with a tarp. Brick, cinder block and concrete from the walls, floor and foundation of the dryer room were also housed in this area.

Evaporation pond waste requiring disposal includes an estimated 4,000 cubic metres of sediment. Additional waste requiring clean-up include the pond berm and pond liner. There is a potential that soils below the liner may also require excavation.

Disposal of these waste containing nuclear substances in an appropriate waste management facility is a requirement of the order. Viterra has proposed disposal of onsite waste containing nuclear substances at the Canadian Crude Separators Inc., Silverberry Waste Management Facility near Fort St. John, British Columbia. This is provincially licensed to receive waste containing naturally occurring radioactive materials, mainly uranium and radium bearing waste.

In order for waste containing nuclear substances to be placed in a provincially licensed hazardous waste management facility, the waste must meet the criteria for conditional clearance as defined in the Nuclear Substances and Radiation Devices Regulations.

If onsite waste meet the conditional clearance definition then the proposed recipient of the

wastes, CCS Silverberry, would not require a CNSC licence to possess these wastes. In addition, CNSC Packaging and Transport of Nuclear Substances Regulations would not apply to these wastes.

Waste management options are detailed in Viterra's July 26th, 2011 update to their evaporation pond remediation plan. This document is currently under review by CNSC staff.

Viterra has requested to extend the site clean-up deadline to December 1, 2013 in order to complete remedial activities during the winter season. Viterra's assessment of remedial options indicates that winter conditions would limit worker and environmental exposure to waste containing nuclear substances during excavation and transport and would result in no change to existing appropriate site security measures.

CNSC staff have assessed the implications of extending the cleanup date by two years with respect to relevant safety and control areas, including risk to persons, the environment, and security.

Staff's assessment of the request found that this extension will not affect site security, as the CNSC order currently requires that security arrangements be maintained at the site as was observed by CNSC staff as recently as August 4th, 2011.

The potential for contaminant migration into adjacent soil and groundwater is not a concern over this timeframe. Environmental monitoring of groundwater to date indicates the pond contaminants are confined and stable.

Additionally, Viterra's evaporation pond remediation plan calls for an assessment of any underlying contamination in soil and groundwater once the excavation of pond sediments is complete to ensure that this area is clean.

Viterra also proposes to complete pond excavation activities during the winter while the materials are in a frozen state. This will likely reduce worker exposure to contamination by reducing the remedial inhalation and dermal exposure with excavated materials.

To facilitate the removal of frozen sediment in soil, Viterra plans to transport accumulated surface water in evaporation pond to an appropriate waste management facility.

CNSC staff also agree that in this specific case, winter remediation is a better option in terms of worker safety and protection of the environment.

Viterra's clean-up efforts conducted to date include the dry room decontamination and its demolition as well, as the evaporation pond investigation

and remedial planning.

Cost estimate for this work is approximately $10 million. This translates into $4 million spent to date and another 6 million estimated for the remaining work.

Viterra has also submitted a clean-up schedule for conducting the remaining work associated with the pond clean up. Work to be done includes site preparation, sediment excavation, waste disposal, sampling and analysis of soil underneath the excavation, groundwater monitoring, and the submittal of a closure report.

While CNSC staff believe the remaining cleanup activities can be done in one winter season, Viterra has identified that there are uncertainties, specifically the weather, subsurface soil conditions under the pond liners, and groundwater monitoring requirements. Any of these could lengthen the remediation time and influence the completion date of the cleanup.

Viterra has indicated that if more clean-up work than is currently anticipated needs to be done underneath the evaporation pond, sufficient funds will be made available during the winter season of 2013.

Staff are in agreement with the timing associated with this plan and expect Viterra to provide

updates as they complete each task associated with the cleanup.

While CNSC staff agreed as reasonable to extend the order for two years, Viterra is expected to make every effort to complete the work in the winter of 2012.

Mr. Elder will continue with the final part of this presentation.

MR. ELDER: Thank you.

Based on the information that Viterra has submitted related to the extension of the clean-up date, CNSC staff recommendations are that to revoke the order issued by the Commission on November 27th, 2009, I note there was an error in the copy of the presentation given to you as it said November 9th rather than 27th.

Also to issue a new order requiring the remainder of the work be completed by December 1st, 2013. We also believe that the order should include that Viterra submit to the Director General of the Directorate of Nuclear Cycle and Facilities Regulations a report that provides details on the disposal of all waste contained and nuclear substances and the results of the post-cleanup environmental monitoring to confirm that there are no substances requiring regulatory control after the cleanup.

We also recommend that the Commission ask

Viterra to report back in June of 2012 if the work is not completed at that time or, if the cleanup is complete, that they file a report with the Commission stating that all actions of the order have been completed.

That concludes the presentation by CNSC staff and we are now available to answer any questions.

THE CHAIRMAN: Thank you very much for a very comprehensive presentation here.

I want to open it up for the floor. Dr. Barriault, if you would start.

MEMBER BARRIAULT: Thank you, Mr. Chairman.

I guess my question is for CNSC. You've been monitoring the Viterra work at the site, and when did you become aware that they would not meet their deadline for cleanup?

MR. ELDER: Peter Elder for the record.

They first approached us in February or March of this year, and when it became apparent that they would not be able to remove the material during this winter and that it was very -- and then they had the rationale -- presenting the rationale for winter removal being the most appropriate.

But that said, we were getting progress reports and were aware that they had run into some -- I won't call it difficulties, but the extra work they had to

do around the building demolition, and that while it wasn't related to nuclear substances, it was extra work they had to do during that period.

MEMBER BARRIAULT: So it was because of environmental concerns with the other problems around the site rather than nuclear substances?

MR. ELDER: Yes, as Viterra has mentioned, they ran into the fact that the original plan, they would just take down the dryer part, dryer room, and then it turned out structurally they couldn't do that. They had to take down the whole building.

MEMBER BARRIAULT: The whole building.

MR. ELDER: And there were also discussions around the waste management about exactly where this waste management was going to go that were going on in that period as well.

MEMBER BARRIAULT: Okay. So what I'm hearing really is that there was a problem with the Department of Environment in Alberta with regards to the disposal of the radioactive waste. Is that correct?

MR. ELDER: No. Peter Elder.

It wasn't a problem with that. It was for them to identify exactly where this waste was going to go and also when they had to take down the other building, the rest of the building, they had to meet the Alberta

environment requirements as well.

So it wasn't that requirements changed. It was on anticipated work, essentially.

MEMBER BARRIAULT: Okay. You mentioned the advantages to winter cleanup. To what level of frost do you have to go down in order to clean up this site and what time of the year do you have that level of frost?

Viterra, do you want to answer that? Okay.

MR. EDMONDS: Michael Edmonds for the record.

Yes, the pond sediments are only 30 centimetres thick, so the pond sediments are only 30 centimetres thick.

MEMBER BARRIAULT: Okay.

MR. EDMONDS: So less than a metre, and we would typically expect two and a half to three feet.

MEMBER BARRIAULT: Of frost?

MR. EDMONDS: Yes. The sediments that we'll be excavating are rather shallow.

MEMBER BARRIAULT: So would that be November-December or January-February-March?

MR. EDMONDS: It would be December-January typically, yeah. That's why we left it to the end of February to ensure that we had as much frost as possible.

MEMBER BARRIAULT: Is CNSC staff satisfied

with the level of progress on this cleanup?

MR. ELDER: To date, yes, we are satisfied of the progress, and we are aware -- I think this is the second time they've come back asking for an extension. This was -- I think we did explain in a fair amount of detail the first time that there was a lot of learning that went into -- the initial date was not based on any firm plans. It was essentially a guesstimate of how long it would take, and the second time, it was based on more firm plans but did not account for other material.

So it's not that Viterra has not done what they said they were going to do. It's that they've actually run into a number of unanticipated problems as they went through the work, which is actually not unusual in this type of remediation.

MEMBER BARRIAULT: They budgeted $10 million for this clean-up project; is that correct?

MR. EDMONDS: Michael Edmonds for the record.

Yes.

MEMBER BARRIAULT: Okay. Is it reasonable to ask that this money be put in trust until the cleanup is done?

MR. ELDER: I guess from the staff's view on this one is they are actually doing the decommissioning

and they are actively spending the money, and so it would be you put it in but then you would actually start taking it out right away because that work is actively continuing.

I understand your concern about how long it will take and that's why we are sort of reluctantly agreeing that two years to cover contingencies is okay, but we really believe it should be able to be done within one year, one winter season.

MEMBER BARRIAULT: The concern I have is that we are back in 2013 really and they are asking for an extension of another two years.

MR. ELDER: Which is why we said if you're not done by the summer of 2012, you come back then, not later. And again, you know -- and we understand that concern as well, as I said.

But in this case, we have a defined plan. It's not uncertain that they will have to -- they will not make the progress. But they are providing us with monthly progress reports.

But we also think, as I said -- because in our opinion you can do it in one season, we would like them to come back and explain to the Commission what difficulties they ran into if they were not able to do it in one season.

MEMBER BARRIAULT: Okay. Thank you.

That's all for now Mr. Chairman.

THE CHAIRMAN: Dr. McDill?

MEMBER McDILL: Thank you.

My -- I'm going to start with some general questions and then I have some more specific ones. Both to staff and Viterra, are there any remaining legal issues pertaining to ESI? Is there anything still going on that has a bearing on this cleanup?

MS. WRIGHT: It's Tracey Wright, for the record.

So everything with ESRIL has been completed and we have no further contact or any other business with them. So that's completed, yeah.

MEMBER McDILL: And staff concurs? It's as they say, a done deal?

MR. ELDER: Sorry, Peter Elder, for the record.

We also have no outstanding issues with them.

MEMBER McDILL: Good.

The -- my second question is transport of anything that meets the clearance limit doesn't require a transport licence. But two things, there's still 3,500 hours of driving work that's been indicated in Viterra's

presentation and that seems huge. And does that have anything -- are we concerned about that with respect to the community around?

And the second thing on transport is, anything that doesn't meet clearance is going to have to go to Chalk River, and that will require a transport licence, is that correct?

MR. ELDER: I'll answer. I think Viterra can address the number of hours in terms of this one. Just a reminder is that just because we don't have requirements doesn't mean it doesn't have to comply to the normal transportation -- the Transport Canada rules. And in terms of -- they would have to do assessing if they want to bring in to Chalk River what they needed to do. It would have to be done.

Whether they needed a licence, I can't say right away. But they would certainly need to follow our regulations. And the Commission is aware, you can transport low level material just based on the rules and the regulations without needing a specific licence. So they would certainly have to respect the regulations. And they would also, in general, have to respect the transportation of dangerous goods requirements as well.

THE CHAIRMAN: But I guess, while this project is going on, wouldn't we want one of our

transportation inspectors to make sure that things are going -- why are they -- not catch them after the fact, advise before the fact?

MR. ELDER: And just in -- we have -- we're using the -- that's in Calgary and we have an office in Calgary and ---

THE CHAIRMAN: Right.

MR. ELDER: --- our inspectors in Calgary are the ones doing the inspection of this one. So we have actually local inspectors who have gone and visited the sites on a routine basis, and we would continue to do that as they go through the remediation as well.

MEMBER DILL: Viterra?

MR. BECKER: Ernie Becker, for the record.

The plan, as submitted to the CNSC staff, does have various provisions for safety of the transport of that material to Silverberry, including an emergency plan, and checks of the trucks and the loads before they leave the site. And yes, you're right. Of course, any nuclear material that is transferred to AECL Chalk River would certainly be shipped according to the transport regulations, CNSC transport regulations.

MEMBER McDILL: With respect to the 3,500 hours, there are 365 days in the year, and if you drive 10 hours a day that's 3,650 hours, and you're saying 3,500

hours. So you're running multiple truck campaigns? How many trucks per -- roughly -- I mean, I don't have it in front of me so I'm asking you to ---

MR. EDMONDS: Michael Edmonds, for the record.

I can't do the calculation in my head, but we will have multiple trucks there and each truck has a capacity of, I think, 30 cubic metres of material, which equates that to about 60 tonnes.

And really the hours are a reflection of the distance that they're driving.

MEMBER McDILL: It's a long way.

MR. EDMONDS: Yeah.

MEMBER McDILL: My next question, sort of ties in with these. What other agencies are involved? Obviously Alberta Environment is one. Are there any potential conflicts with CNSC? Are there any deadlines that are going to cause problems for the nuclear cleanup versus the fats, oils, grease, and things like that?

MR. THELEN: John Thelen, for the record.

On July 29th, I spoke to Mr. Gower of Alberta Environment. He's a team leader of industrial approvals at Alberta Environment, and he stated that Viterra is in communication with, and meeting all regulatory obligations to Alberta Environment at this

time.

He declined an invitation to attend today's hearing as he did not see the need to participate in light of that. He also made a statement that he -- that I'd recorded mentioning that he recommends the CNSC accept Viterra's request to extend the order deadline so that they can proceed with their post-remediation work and continue with the remediation of the site components that deal with the CNSC order.

MEMBER McDILL: Does Viterra have anything to add?

No.

So a few specific questions. On the CNSC deck, page -- I think it's -- it's the one with the one becquerel per gram -- there it is. It's on page 11. And then comparing that to the normative guideline in Viterra's written presentation on their page 10, U238 has got a norm guideline of 10 becquerels per gram on page 10 and I assume a clearance guideline of 1 becquerel per gram on page 11.

So is the norm guideline something different or is there a typo? What am I misunderstanding?

MR. BECKER: Ernie Becker, for the record.

The norm guidelines, the provincial norm guidelines are quite different from the CNSC standards.

They include, as I recall, 10 becquerels per gram of uranium 238, they also have other limits such as for uranium 226. But the relevant standard in this case for the nuclear materials as per the CNSC order is one becquerel per gram of uranium or 80 parts per million, those two are equivalent.

MEMBER McDILL: So why in your presentation is the 10 there, not the 1? It's your written document, page 10, Table 1. The written document, that's why you can't find it, yeah. Written document, page 10, Table 1.

If the title were provincial norm guideline, it might have been easier. I'm just curious as to which one we're aiming at.

MR. EDMONDS: Michael Edmonds, for the record.

Could you repeat the question?

MEMBER McDILL: In Table 1, on page 10, your norm guideline is 10 becquerels per gram. In CNSC's cleanup plan, the criteria for uranium is one becquerel per gram and I am wondering why the 10 is in Table 1 as opposed to the 1 because it appears that your cleanup will be to 10 not to 1?

MR. EDMONDS: That table was included due to previous communications with the CNSC staff who had requested a comparison of the materials that we had to the

norm guidelines. It is not to represent the cleanup criteria.

THE CHAIRMAN: Okay, now I am totally confused because on CNSC slide -- on Slide 11, it says, “10 Becquerel per centimetre square” -- yeah, so I -- per surface and just to really complicate life, are these the same numbers we are using for Port Hope? You will remember the cleanup criteria for Port Hope. I see a smiling Mr. Howard that I’m sure can clue us in in all of this.

Are there the same criteria for cleaning soil?

MR. ELDER: These are -- they are not the same criteria as Port Hope. Port Hope are site-specific criteria that were developed based on risk assessments for the Port Hope area.

These are -- and I think we may have caused some of the confusion in what we asked, but there are two -- going back to your question would they run into any provincial problems?

And the NORM guidelines are provincial numbers which they regulate the natural occurring material rather than us. And we ask the question saying if you are going to make the case for conditional clearance, would you be above any of the provincial numbers in terms of

would you be a problem on that one?

So while the cleanup of the site is going to be to the 1, we also wanted to know the waste; is it going to contain, how much is going to be, what is the concentration going to be in the waste which is appropriate to where it goes.

MEMBER McDILL: Okay, so Table 1 is basically talking about the waste and the provincial clearances to deposit that waste in the waste site as opposed to your criteria for uranium on page 11 which is going to be for what is left on the site at the end?

Is that true? I am getting a nod from Viterra, but I have not got a nod from staff.

MR. ELDER: Well, I am going to deal with the nod from Viterra because it is their document. I do not want to open -- but I know what questions we asked. So it was when you go into this what are you going to do? But the order has always been clear. You cleanup to the 1 Becquerel per ---

MEMBER McDILL: Thank you. So the order is clear?

MR. ELDER: The order is clear. Regardless of what that table says; the order is very clear.

MEMBER McDILL: Okay.

My next question is again fairly specific.

You are going to be taking a bunch of frozen -- I will call it -- muck and you are going to be dropping it into a polyethylene lined truck in Alberta winter which means the polyethylene will be pushing the glass temperature for its behaviour which isn't going to be much of an issue if it cracks if it is frozen, but is that likely to happen; crack the bejabbers out of your polyethylene liner?

MR. EDMONDS: Yes, Michael Edmonds, for the record.

Our contractor has indicated that this is a typical product used by them and they have not run into any issues.

MEMBER McDILL: So a big piece of rock coming down pointy end first into the polyethylene liner is -- your contractor is comfortable?

MR. EDMONDS: They complete this type of work regularly. Yeah.

MEMBER McDILL: Good. Excellent.

And on Table 2 of the written document by Viterra, the South Pond sampling in 2007 is substantially higher, for example, than the South Pond in 2010. I am assuming that the uranium is settling into the sediment. Is that why that is the case? So you have uranium at 3,000 micrograms per litre in 2007 and 960 micrograms per litre in 2010.

MR. BECKER: Ernie Becker, for the record.

Some time ago when the ponds were frozen, Viterra contracted someone to cut holes in the ice and just at random take samples. I believe there was about 8-10 samples taken at random throughout the various ponds. So those are random samples. We think they are representative.

But I guess it just shows that the contamination levels in these ponds is not entirely uniform and we would have to do some more analysis of the loads themselves as well as before they would go out.

MEMBER McDILL: Staff have any comment?

MR. THELEN: John Thelen, for the record.

Without looking at a figure to go along with this table, from what I can understand a grab sample of sediment recorded in 2007 and 2010 you will see variation. I don’t think within that 3-year period we would see a large change in the uranium concentration in what is described in Table 2.

It is more to do likely with sampling variation; understanding that the wastes have been -- the waste containing nuclear substances in the pond and the material in the water that they have been in this situation since 1987.

MEMBER McDILL: But this is pond water, not

pond sediment?

MR. THELEN: Yes. Without seeing the locations, I just cannot tell if they have replicated between 2007 and 2010. I do not believe that is the case. I believe they are -- it is a larger campaign in 2010, but I would have to ask Viterra to clarify.

MR. BECKER: Ernie Becker, for the record.

The water levels will fluctuate somewhat from time to time and with the seasons depending on rainfall and evaporation so there were small differences in the contamination level of the water most likely due simply to more water or more rainfall previously or less rainfall. They are open to the weather.

MEMBER McDILL: Right, so it could as easily be double the other way as well.

Okay, thank you. That answers that question.

I will pass it back to you, Mr. President.

THE CHAIRMAN: Dr. Barriault?

MEMBER BARRIAULT: Thank you, Mr. Chairman.

I guess it begs the question really that you are increasing the volume of what you are going to be transporting by waiting for the winter. In a winter month of course you are going wind up ice and ice is going to have a bigger volume than water would have.

The other concern I have really -- of course, I lived in Alberta. There are Chinooks, there is melting. I would hate like hell to see contamination at the highway from Calgary all the way up to Fort St. John.

And I do not know what will be done to monitor that to make sure it does not occur. Fort St. John is what; about 16 hours north of Calgary by road roughly?

So I guess that is a concern I have and I do not know if that has been addressed or looked at by the CNSC staff. I know by increasing the volume, you are decreasing the amount of contamination per litre. But having said that really the total amount is still there. It is still the same amount of contamination. So I do not know if that has been looked at.

CNSC please?

MR. ELDER: CNSC, sorry, yes, sorry. Peter Elder, for the record.

Like I said, this is one of the things we are looking at in terms of we said the plan for their actual disposal is -- they just submitted a few weeks ago so we are looking at their transportation issues and how they would be doing the transportation.

What I would like to say in terms of the frozen/non-frozen, it is really -- the difference is the

handling that you can do. The fact that you can scoop it up with an excavator versus having to handle the slurry and that is the difference in terms of the doses to the workers that are handling it. It is not a volume reduction thing. It is just how you can manipulate the material.

MEMBER BARRIAULT: You think there is more of a problem using vacuum trucks to vacuum this out and get it out of there than you would have by cutting it up into chunks and put it in the back of the trunk?

MR. ELDER: It is certainly looking in terms of there is more chance of you spilling some of it when you are transporting the water than dealing with a small quantity that may melt on your transportation.

I mean there are pros and cons on this one, but they have done and we are reviewing a quite detailed analysis of the impacts of doing it winter versus summer.

MEMBER BARRIAULT: Thank you.

Thank you, Mr. Chair.

THE CHAIRMAN: Dr. McDill?

MR. CUTHILL: Cody Cuthill, for the record.

If I could just add to there that the intent is not to be transporting frozen liquid. We will be removing the liquids and having a moist, solid there prior to freeze up. And those solids will then be

collected in the retainer plastic truck liners or there in the event of a warm-up and you have some settling out of the potential liquids.

So the intent is not to be hauling liquids at all with those materials. By also completing in the winter time you are adding water to slurryfying, you are increasing your waste volume for a different disposal option. So it is not about taking the waters at all with us.

MEMBER BARRIAULT: So if I understand, you are going to let it melt and then pick up the concentrate.

Are you going to evaporate the water? I don't quite understand what you're saying.

MR. CUTHILL: Cody Cuthill, for the record.

We are going to move the free liquids that are in the pond prior to winter and the freezing, so we're left with a solid that's there. That gets frozen. So the liquid will be contained, tested, and then we'll determine the appropriate disposal for those liquids.

MEMBER BARRIAULT: Okay. Now I understand. I think what you're going to do is pump out the liquid, leave the rest behind, wait for it to freeze and then take it out.

But that still becomes a frozen slurry, I would imagine?

MR. CUTHILL: That is correct. There will be a bell hole that would pull and allow the liquids to continue to settle out, but there will be, as with all solids, some moisture content to it.

MEMBER BARRIAULT: And the water will be treated prior to disposal; is that correct?

MR. CUTHILL: That is correct. It will be tested and verified and verified what the disposal option will have to be.

MEMBER BARRIAULT: So what I understand, really, is that there's two processes going on, and one of them that when it's in liquid form and water form, that you'd want to handle all this material, but one of the arguments that you were giving us was the fact that while you're waiting for it to be frozen, that you wouldn't have any problems with contamination of employees.

And now we're going to have the employees working with the water and then we're going to have the second system, which is removing it in frozen slurry form.

I guess I'm not clear of the advantages now to wait for the wintertime. Perhaps you could explain that to me?

MR. BECKER: Ernie Becker.

To simply decant off the free water would be a matter of perhaps a day's work or something of that

sort, and then you would let it freeze, whereas that's fairly -- the material above the ponds is fine and fairly dense. So if this material were to be removed in summer, you would have to add water with high pressure hoses. You would have to form some sort of slurry, and then you would have to pump that into a tank, and then you would have to transport the tanks to presumably the salt caverns in Saskatchewan.

So it would be far more labour intensive. It would be much larger contamination issues, and there would be a concern of spills of some of this slurry into the soils below the pond liners, whereas what we're talking about here is a simple matter of decanting off the free water, leaving then a frozen -- but a wet frozen muck, which you have a whole truckload of that. Even if you did hit some relatively mild weather, there would be very limited thawing of that wet frozen muck before it got to Silverbury.

MEMBER BARRIAULT: Thank you.

Thank you, Mr. Chairman.

THE CHAIRMAN: Dr. McDill?

MEMBER McDILL: One last quick question.

One of the things I've noticed is there's nothing sort of beyond the end of the cleanup. Staff has talked about monitoring the groundwater after the fact.

Then there's the issue of any trucking to Chalk River or wherever that has to be dealt with.

So what's the timeframe for those? How long will the monitoring go on after cleanup? Is it a once-over or is it a couple of seasons, the groundwater monitoring?

MR. EDMONDS: Michael Edmonds, for the record.

The monitoring schedule has not been clearly defined in the order. Certainly we are required to monitor the groundwater, and we are open to any requirements at this point.

The intent of the remediation plan at this point is to remediate to the AECL levels.

We would then, if groundwater issues are encountered -- and by previous monitoring events, all indications are there are no groundwater issues -- so we believe at this point it would be limited, but clearly we would move forward with additional programs and create strategies where needed.

MEMBER McDILL: Once you remove two geotextile liners, a permanent liner and a clay liner, it's possible that there will be some effect?

I'm just wondering if CNSC staff has popped that onto the end?

MR. ELDER: Peter Elder, for the record.

In terms of what we looked at as removing almost all the source of this one, so we would not expect there would be a difference in the groundwater.

And also, we did factor in, as we showed on the picture, it's inside a wider Viterra site that actually does have some contamination as well, but the Province is looking at it. So it would be well below -- it would not be the source of any -- we're removing the source of potential -- one source of potential groundwater, recognizing that the Province is continuing to look at the whole site.

MEMBER McDILL: But it would be a way of verifying that the cleanup ---

MR. ELDER: You -- well ---

MEMBER McDILL: --- isn't done ---

MR. ELDER: --- when we looked at this one, we're not sure that -- we will verify by doing local sampling afterwards ---

MEMBER McDILL: Sure.

MR. ELDER: --- to make sure they've removed it.

We're not as convinced in the groundwater of what you're seeing. Are you seeing just from the ESI stuff? Are you seeing the long-term operation of the

fertilizer operation, which obviously has that uranium by-product in it?

MEMBER McDILL: Thank you, Mr. President.

THE CHAIRMAN: Just a couple of quick questions.

First of all, is the St. John, B.C. facility, is that one of our licensees? Do they require a licence from us?

MR. ELDER: No, they do not. They have a provincial licence. They do not have a CNSC licence.

THE CHAIRMAN: And has AECL in Chalk River agreed to accept the material?

MR. ELDER: If the material has to go to AECL, AECL is, by government policy, required to ---

THE CHAIRMAN: Has to?

MR. ELDER: --- offer a fee for service for this type of waste.

THE CHAIRMAN: So they have to accept it?

MR. ELDER: Yes. For a price, yes.

THE CHAIRMAN: Okay. Can you tell me, what is the end use of this piece of land? It's in the middle of Calgary. What's the long-term use? Are you planning to bring it down to commercial use?

MS. ROY: It's Tracy Roy, for the record.

Yes, if we can achieve that, it would be

our intent to do that, yes.

THE CHAIRMAN: Okay. So which brings me back to -- again, I'm not letting go -- I want to understand how, if you bring one Becquerel per gram to release, is that allowed for commercial development, residential development?

MR. ELDER: Peter Elder.

It would be a provincial requirement on that one rather than a federal on this one. I'll even say based on the norm requirements, we are requiring -- we know we are requiring this area to be cleaned up to a lower -- more than adjacent ones that the provinces are looking at.

THE CHAIRMAN: Right.

But all I'm trying to understand is, is our criteria, when we define the thing to be cleaned, just this particular property, does that automatically guarantee that it's clean enough for commercial development?

MR. ELDER: Well ---

THE CHAIRMAN: I'm coming back to our experience with Port Hope. We had lots of experience.

MR. ELDER: Right.

So this goes back to we are requiring them to clean up the uranium, and I think very similar to Port

Hope, we're not telling them to do anything -- you know, we're not concerned about any other contaminates at this point.

The Province, when they would go in and say, "You've got unconditional use of the property" wants to know it's not just uranium that's cleaned up, that anything has been cleaned up as well.

So we checked with Alberta, and so what we're doing is not in contradiction with Alberta requirements, but there may be more that Alberta wants you to do, but that's not related to uranium.

THE CHAIRMAN: I'm not worried about Alberta.

What I'm trying to understand is whether for uranium -- for uranium -- I'm not talking about arsenic or whatever else is in there -- but for uranium, is 1 Becquerel per gram, is that equivalent with what we are seeing in Port Hope, and why is that not site-specific?

I mean, we're setting up standards, right? I want to know if the Alberta, middle of Calgary standard for clean soil is the same as in Port Hope, just for my own understanding?

MR. ELDER: Okay. And we'll have to get back to you on the precise -- what the Alberta standard is

versus an Ontario one, which you know -- we're aware the Ontario one is quite new. It came into effect last month. So I don't think Alberta is quite at the same ---

THE CHAIRMAN: No, but our 35 parts per kilogram, whatever -- I don't remember what it is anymore -- is something that we set ourselves.

Don, do you want to step in there and enlighten us, if you can?

(SHORT PAUSE/COURTE PAUSE)

MR. HOWARD: Don Howard, for the record.

In Port Hope, what happened was that the low-level radioactive waste management office did an assessment, looked at the bioaccessibility of uranium in Port Hope, developed a cleanup criteria of 35 parts per million.

That was used for the environmental assessment that was conducted for that project in Port Hope and the results of that environmental assessment determined that at those cleanup criteria, there was no impact on human health or the environment.

THE CHAIRMAN: Okay. And at that time, everybody agreed that if you reach that level, it's clean. Please tell me if I'm right or wrong on this one?

MR. HOWARD: At that time in 2005 when those were developed and they were developed looking at

the Ontario regulations, keeping those in mind, but at that time Ontario regulations did not have a number for uranium.

So when the new regulations came into play, that is when Ontario introduced a uranium number into their regulations which was at 23 parts per million which was from the CCME guidelines.

So that's why right now we're discussing with Ontario as to how that is -- how are we looking at the -- at that number in comparison to what was evaluated in 2005 as the cleanup criteria and whether, you know, it's still viable to move forward on those numbers.

So we're currently working with Ontario for that.

THE CHAIRMAN: Okay, but -- okay. So let's stick for a second just on the 23 parts per million because I thought I heard 80 parts per million. That's why I'm getting excited about that because if it's 80 parts per million, it's definitely a lot less strict than what we're doing in Port Hope.

MR. ELDER: So this comes back to end use in terms of whether it's industrial plan versus residential.

THE CHAIRMAN: Right. So that's why I'm asking. I'm coming back to my original question. If the

end use if you -- if you wanted to become commercial or residential, you may want to think about what is the level of cleanness you wanted to define here so you don't get stuck when the 23 parts per million run across the whole country. Because as you know, if it's good for one province, it can go to all provinces.

So you want to make sure that you -- if you're going to go through this expense to clean the slate, you've got to make sure to what level of cleanness you want to bring it down to.

And I was hoping that the one gram -- I'm now switching gear in units here, which I don't know how to do the translation, but the one gram per -- the one becquerel per gram is very, very strict and I don't know if this is the one that referred to -- the gentleman referred to that one becquerel per gram is 80 -- is the same thing as 80 parts per million.

MR. ELDER: That’s -- this is Peter Elder.

That is the conversion. One becquerel per gram is 80 parts per million.

THE CHAIRMAN: So Viterra, you may want to go lower than that. This is the old -- this is my conclusion from this little back of the envelope understanding of what's going on here.

Did I get it right or not?

MR. BECKER: Ernie Becker.

Yes, it's 80 parts per million is one becquerel per gram. We did -- I did investigate this on behalf of Viterra several years ago. There are various standards and by now I'm going by memory. I'm not quite sure what the numbers were for Calgary but there are -- is the industrial standard, there's a commercial standard and I believe there's a residential standard. They are all different.

Viterra is aware of all of this and I suppose there's two parts to this question. One part is to satisfy the order of the CNSC and meet their criteria. The other part becomes a business decision whether they wish to sell the land as a residential property as opposed to an industrial property and that would be really quite separate but Viterra is aware of this and will consider all of this.

THE CHAIRMAN: That's fine. I mean I don't want to interfere with the business decision. I just want to make sure everybody understand -- that we understand what we're doing here now.

Okay. Anybody else has any question, any observation?

Well, thank you very much and I think this concludes our public hearing.

Marc, is there anything I have to do now?

MR. LEBLANC: No, just close it and I'll just remind everyone that the Commission will now confer with regards to the information that it has considered today and then determine if further information is needed or if the Commission is ready to proceed with a decision on this request for a determination. And we will advise as soon as we know.

Thank you.

THE CHAIRMAN: Thank you.

--- Upon adjourning at 3:02 p.m. /

L'audience est ajournée à 15h02