ONE-DAY HEARING

Cameco Corporation: Environmental Assessment (EA) Guidelines (Scope of Project and Assessment) for the Key Lake Uranium Mill and McArthur River Mine production increase

THE CHAIRPERSON: This is going to be a one-day public hearing. The Notice of Public Hearing 2004-H14 was published on June 29, 2004. The public was invited to participate either by oral presentation or written submission. August 16, 2004 was the deadline set for filing by intervenors. The Commission received three requests for intervention.

September 8th was the deadline for filing of supplementary information. I note that supplementary information has been filed by the intervenors.

THE CHAIRPERSON: With that preamble, I would like to now start the hearing by calling on the presentation from Cameco Corporation. This is outlined in Commission Member Document 04-H20.1. I will again turn to Mr. Terry Rogers, Senior Vice President and Chief Operating Officer of Cameco.

Mr. Rogers, the floor is yours.
MR. ROGERS: Thank you again, Madam Chair. Good afternoon, Commission Members, staff and ladies and gentlemen.

For the record, I am Terry Rogers, Chief Operating Officer for Cameco Corporation.

At Cameco we are firmly committed to the concept of continual improvement in all of our operations. To us, of course, this means efforts to work safer, to reduce emissions and to improve our processes. It also means making the best possible use of our existing assets and that is what we are proposing at Key Lake and McArthur River.

We are, as you can appreciate, in a very dynamic nuclear market. Current world mine production satisfies only about one half of the world demand for uranium fuel. Right now that shortfall is made up from secondary sources such as dismantled nuclear weapons and excess utility inventory. But these secondary sources are limited and are being rapidly depleted. In the next few years it is critical that the industry replaces and expands its primary sources of
As a major supplier in this industry, it is prudent for Cameco to explore all of our options to address market demand. At Key Lake and McArthur River I believe we can make a solid case for increase in our licensed production capacity.

In essence, I believe we will be able to show that both the McArthur River mine and the Key Lake mill are capable of safely producing at a higher level. This can be done in both an environmentally responsible manner and on a sustained basis. We have already proven this on monthly and quarterly bases.

Our aim is to increase sustainable production over time and should the CNSC grant our request we would continue to refine our mining plans going forward to achieve this goal.

The increase in production will require a small increase into capital cost and manpower. Most of this would be required over the next few years in any case given the fact that new areas of the mine must continue to be developed regardless of the rate at which we extract the resource.
Again let me introduce the people who are joining me here in presenting and answering your questions today.

Again to my right, John Jarrell, Vice President of Safety, Health and Environment for Cameco; on my left Wyatt Buck who is the General Manager of both Key Lake and McArthur River; and behind Glen White, who is the Superintendent, Environmental Assessment in the Safety, Health and Environment Department. Glen is Cameco's project manager for this environmental assessment.

I will turn it over for Mr. John Jarrell.

MR. JARRELL: Thank you, Terry.

For the transcript record, my name is John Jarrell and I am Cameco's Vice President of Safety, Health and Environment.

Our presentation today is intended to support the Commission's consideration to propose guidelines for the environmental assessment to increase the production rate of both McArthur River mine and the Key Lake facilities. As such, we will provide a rationale for the production increase, we will provide a description
of the main facilities of these sites. I would also wish to discuss public consultation, as well as providing a few comments on the guidelines themselves.

We are proposing to increase the licensed annual product limits by 18 per cent at both McArthur River and Key Lake from 18.7 to 22 million pounds.

As CNSC staff will no doubt explain in better detail, changing the licence production limits are CEAA triggers for the environmental assessment guidelines being considered here today.

I would like to take a few minutes and review the history of this project prior to today's hearing. We submitted the project proposal to CNSC staff and Saskatchewan Environment in December 2002. An assessment of the project was included with the project proposal which we hoped would be sufficient to allow evaluation of the project permitted to proceed to licensing.

The province requested additional information regarding the potential combined effects from a number of potentially interrelated
initiatives under way at the Key Lake operation, as well as further information regarding potential public concerns associated with the project. This information was provided to both regulatory agencies earlier this year.

The timing of this submission was unfortunately strongly influenced by the 2003 McArthur River inflow incident.

In June of this year, the province concluded their assessment and issued approval for the project to proceed to permitting. Once the potential need for a harmonized federal-provincial process was resolved, CNSC staff issued the guidelines for a screening level environmental assessment and screening report which are under consideration today.

The additional projects at the Key Lake operation which were considered along with this production increase proposal to meet the provincial information requirements included potential improvements in leaching and water treatment methodologies which are still currently in the testing phases as well as the processing of recycled products from our Blind River and Port Hope refining and conversion operations in
The study concluded that there was no significant adverse affects associated with any of these project either individually or in combination.

The production increase project proposal was reviewed with the EQC representatives from northern Saskatchewan, both to meet the EQC expectations on consultation, but also to address the provincial information requirement.

This consultation resulted in a generally supportive response from the EQC based, of course, on the premise that the forecast impacts would be as predicted.

I would now like to quickly summarize a bit of the general background from these two sites for the sake of completeness.

McArthur River operation is located within the Athabascan Basin 630 kilometres north of Saskatoon. Key Lake operation is located approximately 80 kilometres to the southwest. There are 18 designated impact communities directly associated with Key Lake and McArthur River operations. Cameco’s public consultation effort for this project have and will continue to
include the full northern Saskatchewan EQC group which represents communities associated with all of our northern Saskatchewan operation.

Our public consultation efforts also include the more southern communities of La Ronge and Saskatoon.

The McArthur River and Key Lake sites are connected by an all-weather gravel haul road which in turn is connected to the highway system in southern Saskatchewan by Highway 914. Both sites have dedicated airstrips used for the transport of employees and air freight to the site.

Although Cameco and Areva are joint venture partners in both operations, the ownership structure is slightly different as shown in this slide. Cameco is the CNSC licensee and operator for both facilities.

Initial discovery of the McArthur River ore body occurred in 1988 after an eight year surface exploration program. An underground exploration program was approved by the federal and provincial governments in 1993 based on the positive recommendation from the joint federal-provincial panel formed in 1991 to
evaluate all of the Saskatchewan uranium development projects proposed at that time.

Government approvals for the full mining project were subsequently granted based on the submissions, review and acceptance of the 1995 Environmental Impact Statement, or EIS, which until this point has been the main assessment document supporting the current mining operations.

Commercial production was achieved at McArthur River in the year 2000. Current proven reserves are 457 million pounds, translating into a 20 to 25 year mine life.

The main mining infrastructure features at McArthur River include three shafts for both mine access and ventilation purposes; mine development drifts, shown in gray; above and below the ore zone shown in gold; and an underground ore preparation circuit.

This slide outlines the current main steps involved in producing ore at McArthur River. Briefly, this involves freezing the ore body, creation of a pilot hole, reaming of the ore, handling of the ore, processing it, skipping it or pumping it to surface and then shipping the material to Key Lake.
I should point out that the production rate is largely determined by the number of raised bore machines; the ore grade at any given point; and the cycle time to complete a raise.

The Key Lake mill began production in 1983 -- not 1981 as shown in this slide -- treating ore from the Gaertner and then the Deilmann open pits. Ore from these on-site pits were essentially depleted by the year 2000 when processing ore from McArthur River began.

Original approvals for the Key Lake operation were supported by an EIS considered by the Key Lake Board of Inquiry. The move to milling of McArthur River ore at Key Lake was assessed as part of the McArthur River EIS as well as by a separate EIS which assessed the disposable tailings in the mined out Deilmann open pit, now called the Deilmann Tailings Management Facility.

An important part to note from a production rate viewpoint is that Key Lake ores were treated as an average grade of about 2 per cent U₃O₈, while McArthur River ore is treated at a nominal grade of 4 per cent. This has resulted in the present situation where the front end
milling circuits are under utilized.

This slide shows the basic process steps at Key Lake and I won't belabour the point. The two points I would make on this slide is that the majority of the ammonia reagent which is used in the operation is recovered in the crystallization circuit and is sold as an ammonium nitrate fertilizer, as a byproduct.

I will point out that the contaminated water which is collected and generated is treated in a centralized bulk neutralization circuit prior to treatment, prior to release in the environment.

Broadly speaking, implementing the production increase from 18.7 to 22 million pounds can be accomplished by taking advantage of existing capacity at both sites that are not currently being fully utilized. Few, if any, additional equipment requirements are anticipated.

At McArthur River, the additional production will not in the short to medium term require any additional mine development or ventilation requirements beyond that required to maintain the current production rate.

In the longer term, new
development areas will come online sooner; waste rock will correspondingly be generated and consumed sooner, but the total waste rock generated for the current total McArthur River's reserve estimate will remain unchanged.

We have conservatively assumed one additional raise bore and an associated operating crew in order to maintain and/or enhance scheduled flexibility of the raise bore mining equipment. No additional ore preparation or slurry loadout equipment is required. The grinding circuit currently operates about 50 per cent of the time.

We have also conservatively assumed additional transportation equipment, but recent improvements in slurry transport density make this requirement less likely. In any case, traffic volumes on the haul road between McArthur River and Key Lake are low.

As previously pointed out, the change to processing McArthur River ore at a grade of 4 per cent versus the previous 2 per cent has created unused capacity in the front end milling circuits at Key Lake due to the reduced volumes of rock processed per pound of production.
This effect can be seen in this table of individual circuit availabilities. This table from our 2002 project proposal shows the anticipated changes in usage or availability of various mill circuits based on 2001 operating data.

In summary, we believe we can make more efficient use of this existing facility. As a result, we believe that the increase can be accomplished without significantly adding additional equipment.

In fact, this possibility is supported by the production statistics for the year 2002. As this slide demonstrates, the annual production limit for Key Lake was achieved on December 4, 2002, prompting a year end shutdown. Had we simply continued to operate for the remainder of the year, and had the mill continued to operate well, we could have come close to achieving the annual production we are now seeking. Had we had that additional flexibility through 2002, we believe that 22 million pounds could have been achieved.

Obviously, if the mill or supporting mine does not run well we cannot make
our production targets. What we are seeking is the flexibility to optimize production when the mine and mill are capable or doing so, provided of course that health, safety and environmental performance are not compromised.

That said, our conservative assessment has indicated we may need to make a few mill modifications, which are insignificant from an environmental impact perspective, to ensure we can more consistently achieve the proposed production limit.

These changes may include modifications to the pumping rate of organic solution carrying capacity in the solvent extraction circuit, and the addition of ammonia reagent vaporization capacity. The latter item can be a restriction in extremely cold weather conditions even at current production rates.

Circuit optimization to achieve the best use of an asset should be an ongoing, continual improvement effort at any milling operation. Seeking these production rate improvements is an important part of fostering a culture which strives to do better and does not become complacent.
The core environmental impact premise is that the volume and quality of effluent generated is independent of production rate at both McArthur River and Key Lake. Effluent volume is essentially a function of mine or tailings dewatering requirements and the volume of collected precipitation.

Neither site utilizes water from other sources except to meet potable water requirements. What water is collected must be treated, no more, no less, whether the facilities are operating or not.

Where an increased production rate might be expected to have an effect would be in effluent quality resulting from using slightly more of the dewatering water in the processing facilities at McArthury River and Key Lake rather than sending it directly to the water treatment facilities. This could in turn increase the loading of contaminants reporting to the water treatment facilities. However, in both cases we believe that the robust nature of our water treatment method will rapidly remove these additional front-end loadings and produce effluent without measureable changes in quality.
For instance, in cases where treatment efficiency is largely governed by chemical equilibrium or solubility considerations. It is instructive to examine historical effluent discharges. This graph shows effluent loadings not concentrations unfortunately -- as said in the slide here -- for elements of interest including uranium, arsenic, nickel, selinium, molybdenum for the period 1999 through 2003 at Key Lake.

The substantial drop in the first few years is largely a function of reduced effluent volumes resulting from initiation of reflooding the groundwater cone of depression around the Deilmann and Gaertner pits, but it also reflects the treatment of cleaner McArthur River ore.

As can be seen by the data in the latter years, there is some variability and loadings from year to year and we expect that if we were to conservatively assume a change in effluent quality that it would not be outside the range of normal variation experienced to date. We intend to provide a bit more statistical analysis in the upcoming assessment to support this initial
As mentioned earlier, the total amount of waste rock generated will not change, although in the longer term the generation rate rather than the volume may increase. Similarly, at a higher production rate ore and waste as diluent are consumed at a faster rate and corresponding tailings will accumulate more quickly, but again only to the same final volumes. This incremental increase in tailings solid deposition rate is not expected to result in any significant changes to geotechnical or geochemical tailings characteristics.

The accelerated consumption of wastes from Key Lake as diluent is seen as a benefit from an environmental perspective. From a radiation protection perspective, no discernable increases in radiation doses are expected and predicted doses remain well within original EIS predictions.

One effect often seen in these types of initiatives is the fact that both environmental loadings and dose expenditures can actually drop with higher production rates because circuits run at higher rates often run smoother,
requiring less maintenance and generating fewer
process upset conditions, this provided, of
course, that adequate time is preserved to carry
out maintenance activities effectively.

Similar to the thinking on waste
rock generation and the accumulation of tailings
there is the potential for an increase in the
annual consumption of reagends, but this
consumption is expected to remain the same on a
kilogram per tonne basis and ultimately remain the
same for the total tonnage of ore processed.

Air emissions are not expected to
be measurably higher as a result of the production
increase. These are expected to continue to be
low in comparison to historic grinding emissions
when ore rather than waste materials were ground
at Key Lake.

In 1999 yellowcake calciner
emissions were reduced as a result of calciner
scrubber upgrades. This is one of the
modifications associated with the transition to
milling McArthur River ore. This had more impact
than we expect from the proposed production
increase. In other words, factors other than
straight production increases such as scrubber
performance upgrades often have more impact than those directly associated with the production increase.

It would be reasonable to assume a modest increase in operating supplies associated with the production increase, but overall traffic density is low and would not approach the significantly higher levels associated with the construction periods at the Key Lake and McArthur River facilities.

Furthermore, impact on the roads from mining projects in northern Saskatchewan are mitigated through road maintenance agreements.

I would now like to touch on the public consultation activities, both completed and planned, for the proposed production increase.

We have already noted the November 2003 public consultation process with the EQCs which form the basis for our response to the provincial government’s request for further information in order to complete their assessment.

We also took the opportunity to discuss the project again at the community level consultation meetings held in a number of the major designated impact communities in April and
May of this year.

Recently, we also took the opportunity to review the presentation we are providing to you here today with the Northern Saskatchewan EQCs.

Looking forward, we intend to try to keep the public in general informed of the progress with respect to this and other projects during our annual community update, to give more frequent updates to the EQC community representatives at both regular and, if requested, special meetings especially related to the results of the upcoming assessment.

With respect to the assessment guidelines themselves, we do not see that any specific modifications are required. The guidelines closely follow the structure used for assessing the Cigar Lake project. Our experience was that these EA guidelines work relatively well for Cigar Lake.

We feel that they are sufficiently comprehensivwe and that they are readily adaptable to assessing the production increase proposal. They will allow us to adopt an assessment methodology which we are now familiar with and
which should allow us to effectively address the
issues which have been identified.

This approach should facilitate
staff's review of the results of the assessment
and provide feedback to us within a reasonable
timeframe.

If we had any special concerns
worth noting at this time, it would be that we
believe it will take some effort to separate any
identified issues directly associated with this
proposal from any general issues associated with
current and past performance of the site. In
other words, a clear understanding of what is a
project-specific issue and what is an already
existing site-specific issue needs to be
developed.

As indicated on this slide, Cameco
hopes that a licence amendment will be granted
which permits the production increase to have a
material impact on the 2005 production year rather
than the 2006 production year.

As in the case of weather season
constraints, there are also currently calendar
year production constraints as well, locking in
times when this amendment could have material
effect on annual production capability. This of course all hinges on acceptance of the environmental assessment and a relatively straightforward subsequent licensing process.

Key milestone dates to achieve this outcome include completing the necessary steps in order to appear before the Commission to present the results of the screening report in June 2005 and completing the licensing process by October of 2005.

In summary, we believe that no significant modifications are necessary to either the McArthur River or Key Lake facilities to implement the production increase.

We believe that the conclusions of the upcoming assessment will remain consistent with our original assessment presented in our 2002 project proposal and, as such, there will be no significant residual effects associated with this production increase.

We believe we have carried out reasonable public consultation efforts to date for this project and intend to continue to do so.

We feel that the guidelines being considered today are adequate for the assessment,
being both sufficiently comprehensive and adaptable to this project.

Finally, we hope we have the necessary approvals in place in time to have material effect on the 2005 production year.

Thank you for the time. This completes our presentation. We are prepared to address any question you may have, either now or later in this hearing.

THE CHAIRPERSON: Before opening the floor for questions I would like to turn to the presentation from CNSC staff. This is outlined in CMD document 04-H20. I will turn to Mr. Howden, the CNSC, for his comments.

Mr. Howden, the floor is yours.

04-H20

Oral presentation by CNSC

MR. HOWDEN: Thank you. Good afternoon, Madam Chair and Members of the Commission.

For the record, my name is Barclay Howden, Director General of the Directorate of Nuclear Cycle and Facilities Regulation. With me today are Mr. Kevin Scissons, Director of the
Uranium Mines and Lands Evaluation Division;
Mr. Mike Rinker, Environmental Assessment
Specialist in the Processing Facilities and
Technical Support Division; and the rest of our
environmental assessment team for this project.

Cameco Corporation has submitted a
proposal to increase production at the McArthur
River mine and the Key Lake mill. The Canadian
Environmental Assessment Act requires that an
environmental assessment be conducted prior to
making a licensing decision on the proposal.
Therefore, draft guidelines for that environmental
assessment have been prepared for your
consideration.

I will now ask Mike Rinker to
present CMD 04-H20.'

MR. RINKER: Good afternoon, Madam
President and Members of the Commission.

My name is Michael Rinker from the
Processing Facilities and Technical Support
Division. Today I will present to you the
environmental assessment guidelines for Cameco's
proposed production increase for the Key Lake
uranium mill and the McArthur River uranium mine.

In this presentation I will
briefly describe the Cameco proposal; indicate how staff determine the Canadian Environmental Assessment Act would be applied; describe the process by which the guidelines were developed for this proposal; and make a recommendation on the environmental assessment guidelines.

The purpose of Cameco's proposal is to increase the rate of production of ore at the McArthur River mine and the rate of processing of this order at the Key Lake mill in order to provide production flexibility to better respond to market demand.

At Key Lake the project activities include the continued operation of the Key Lake mill during the course of a year as opposed to shutting down prior to year end due to the current production limit. The capacity of the extraction circuit, the ammonia vaporization capacity and additional surge capacity between the yellowcake thickener and the calciner may be need to be increased to achieve the 8.5 million kilogram production limit.

At McArthur River, project activities may include the addition of one more raise bore system. No other modifications are
required of the production facilities because these have the capability of handling the increase in production rates.

The proposal involves the modification of activities relating to a physical work, namely the operation of the McArthur River uranium mine and the Key Lake uranium mill and thus there is a "project" as defined in section 2 of the Canadian Environmental Assessment Act.

CNSC authorization of the project would require changes to the conditions of the existing operating licenses for the McArthur River facility and the Key Lake facility pursuant to subsection 24(2) of the Nuclear Safety and Control Act. Therefore, there is a "trigger" as defined by the Law List Regulations of the Canadian Environmental Assessment Act.

The project does not satisfy the criteria of the Exclusion List Regulations or Comprehensive Study List Regulations. At this time, there is no apparent reason to suggest referral to a panel or a mediator. Therefore, a screening environmental assessment is required for the proposal.

The Canadian Nuclear Safety StenoTran
Commission will be the only responsible authority for the environmental assessment.

Through the application of the Federal Coordination Regulations, CNSC staff determined that Health Canada and Natural Resources Canada are federal authorities for the purpose of the environmental assessment. No other federal authorities were identified.

The Environmental Assessment Branch of Saskatchewan Environment received Cameco's proposal to increase production at Key Lake and McArthur River. The review identified two areas where additional information was required before Saskatchewan Environment could complete their review of the proposal.

Cameco was requested to provide more detailed information on potential impacts to the Key Lake receiving environment for coincident projects involving changes to the mill.

Cameco was also requested to undertake and report on a public information program.

Ministerial approval under the Saskatchewan Environmental Assessment Act to increase production at the Key Lake Mill and
McArthur River mine was provided to Cameco in June of 2004. This approval was based on the proposal and the additional information requested by the province.

The province has no further environmental assessment requirements for production increase at the Key Lake mill and the McArthur River mine. Therefore, the CNSC, as the responsible authority, was able to bring these guidelines forward and will be the lead for this environmental assessment.

As the responsible authority, the CNSC has certain obligations under the Canadian Environmental Assessment Act. These obligations include: establishing the scope of the project and of the assessment; developing the environmental assessment guidelines; managing the environmental assessment process; and making a decision regarding the significance of any adverse impacts anticipated from the proposed project.

The Environmental Assessment Guidelines were developed through the following steps: staff reviewed the project description and prepared draft guidelines; the draft guidelines were circulated to federal departments and made
available to the public for comment; the
guidelines were revised in response to the
comments received.

To facilitate public awareness of
the environmental assessment, the project was
identified in the federal Environmental Assessment
Index and on the CNSC Web site. A public registry
is also maintained of all documents pertaining to
the review.

The public review of draft
Environmental Assessment Guidelines resulted in
one comment in the form of an e-mail from the
Secretariat of the Environmental Quality
Committee. As a result of this e-mail, the
Northern Saskatchewan Environmental Quality
Committee was identified for public consultation.

The Environmental Assessment
Guidelines for this project have three main
components: the scope of the project; the factors
to be considered in the assessment, or a scope of
the assessment; and the methodology to be used in
completing the assessment.

The scope of the project was
determined from the project description submitted
by Cameco Corporation, which identifies the
physical works to be modified in any specific undertaking in relation to those physical works. Because this proposal represents an increase in the duration of activities rather than new activities, a requirement of Cameco is to document in the environmental assessment the incremental changes to activities that would occur during the conduct of mining and milling with expanded production rates.

The factors to be considered in the assessment or scope of the assessment is based on the legislated requirements in paragraph 16.1(a) to (d) of the Canadian Environmental Assessment Act, that is: the environmental effects of the project; the significance of the effects; the comments of the public received during the environmental assessment; and the mitigation measures for the identified environmental effects.

In addition, with the discretion allowed in paragraph 16.1(e) of the Canadian Environmental Assessment Act, the EA must identify the purpose and need for the project from Cameco's perspective, the consideration of traditional and local knowledge, and the need for and requirements
of a follow-up program.

Included in the discussion on assessment methodology is a requirement for comprehensive public consultation. Cameco's study report must indicate how public comments and concerns have been addressed during the assessment.

CNSC staff will also afford opportunities for the public to comment, in particular on the screening report.

The acceptance of the guidelines as proposed in CMD 04-H20 would mark the completion of the first phase of the environmental assessment for the Cameco project to increase production at the McArthur River mine and the Key Lake mill.

The plan for the remainder of the environmental assessment is follows: Cameco Corporation will be delegated the conduct of technical studies to fulfil the requirements of the environmental assessment. This delegation will include consultation activities related to the studies. When completed, the results of the studies will be integrated into a study report to demonstrate successful compliance with the
CNSC technical experts and federal authorities will review the Cameco study report. Their independent review is to determine if Cameco has complied with the environmental assessment guidelines. The reviewers will also be analyzing the study report to enable CNSC staff to make recommendations regarding the predicted impacts of the projects.

The Cameco study report and the results of the independent review will be used as the basis for the preparation of the draft environmental assessment screening report.

The draft screening report will be released to the public and to federal and provincial departments and agencies for review and comment. The comments received will be reviewed and the draft will be revised to incorporate the suggested changes.

The final screening report will be submitted to the Commission with conclusions regarding the likelihood of significant adverse environmental effects. At that time the Commission will be asked to make a decision on accepting the environmental assessment screening...
report under section 21 of the Canadian Environmental Assessment Act.

The approval being sought from the Commission today is for the environmental assessment guidelines document. The acceptability of the proposed project will be the subject of a later hearing when the screening report is presented.

CNSC staff recommends that the Commission approve the environmental assessment guidelines for the Cameco proposal to increase production at the McArthur River mine and the Key Lake mill as presented in Appendix A of CMD 04-H20.

I will now turn the presentation over to Mr. Barclay Howden. Thank you.

MR. HOWDEN: Thank you.

That concludes our presentation and staff is available to respond to questions.

THE CHAIRPERSON: Thank you. The floor is now open for questions.

Mr. Graham, would you like to start?

MEMBER GRAHAM: Thank you. Just a couple of basic questions I have with regard to
the production.

I think in the previous hearing this afternoon you had mentioned that you were doing about 18.3 million pounds and that was up to about December the 4th or something like that in production. You wouldn't need to expand very much.

I guess my question would be with regard to the increased production. Will that cause, not necessarily at the mill but we will start at the mill and go back to the mine, any adverse effect on the environment with regard to other effluents and other processes coming out of the mill because of the increased production? Have you got the adequate facilities there to handle any increased production as far as leaching and catching of contaminants and so on?

We will start with the mill and then go to the mine.

MR. JARRELL: John Jarrell for the record.

Yes, Mr. Buck pointed out that on a monthly basis we met that rate, so I think that the short answer, which obviously we have to prove in the EA, is that we have run at those rates and
we run successfully so I think one of the key
things we are trying to do in the CEA is to
provide enough evidence to you to present that
case.

MEMBER GRAHAM: What about at the
mine now? That would be increased production.
There is a possibility of one more -- some
additional work that would have to be done at the
mine. Will that require any additional discharge
of groundwater and so on into the holding pits and
so on?

MR. JARRELL: No, not any
additional water. I think what I had tried to
indicate in my presentation is some additional
amounts of that water may go through the
underground processing circuit but that by and
large the same amount of water will be discharged
regardless.

In the project proposal we made
the point that the increases that we will see in
the water volume are more to do with the
development of the mine rather than the rate at
which we develop that mine.

MEMBER GRAHAM: The mine has a
certain age. I can go back and get the exact
date, but I think you gave that today.

Modernization of the mine over the next short term, not only to accommodate the increased production but modernization within the mine, is there a planned expansion or modernization of capital equipment that will be introduced over the duration, say, of the next licensing when that comes forward?

MR. ROGERS: Terry Rogers for the record.

No. The McArthur River mine is using sort of state of the art technology now. We will, as we have indicated -- perhaps one more raise bore mining machine may be required, but the technology we have now is pretty well state of the art. We don't see anything new on the horizon at least during the licensing period as far as mining technology of the equipment is concerned.

MEMBER GRAHAM: One other question and that is to CNSC staff.

Is there any one major concern that you would have with regard to the environmental effects of this increased production that we as a Commission should be aware of as the major concern that might happen or should be
brought to our attention?

MR. SCISSIONS: Kevin Scissons.

Probably the focus on the
guideline and the information we want from it will
be the effects, cumulative effects or increment
effects. So that will be the key thing we are
asking the licensee to focus on when they do
present or prepare the environment assessment
based on these guidelines.

THE CHAIRPERSON: So in fact it is
too early to say that.

Mr. Taylor.

MEMBER TAYLOR: Looking at the
disposition of comments, it would appear that
there are only two public comments up until the
time this document was issued, and they are
relatively minor. Have there been more since,
 apart from those from Mrs. Shiell?

MR. RINKER: Mike Rinker for the
record.

I believe we have three
intervenors here today to present comments.

MEMBER TAYLOR: Does that, in your
view, mean that these guidelines are so blindingly
brilliant that there is no possibility of public
comment? Does it mean that nobody is interested?
What does it mean, or is it some combination of
those things?

MR. RINKER: Mike Rinker for the
record.

I don't know exactly what it
means. I can speculate that we have an
established process for environmental assessment
guidelines that are becoming familiar. I think
that is a good thing. However, it is a project by
project basis that establishes interest rather
than our EA guideline process.

MR. TAYLOR: If I may come to the
point. Are you convinced that you have done the
best you can in terms of seeking public comment?

MR. RINKER: Absolutely. I think
in general the public consultation process that
the CNSC employs for a screening level
environmental assessment is above any other
federal agency.

MR. TAYLOR: Thank you.

THE CHAIRPERSON: Dr. Dosman.

MEMBER DOSMAN: Thank you, Madam
Chair.

It has been said, and I would just
like to confirm, that information from the 
previous two hearings today involving McArthur 
River and Key Lake might be relevant to the 
discussion. I would like to confirm that.

Thank you.

THE CHAIRPERSON: Just to confirm.

What I said was that any comments that were made 
earlier could be used in the reasons for decision 
per se.

The discussion today should be 
restricted to the issue of the guidelines for EA, 
not to discussions with regards to the performance 
of the mine except for how it affects the 
guidelines. The comments and questions that were 
made earlier today with regards to production, the 
actual licence and performance of the mines will 
be considered in consideration of this evidence.

MEMBER DOSMAN: Thank you for that 
clarification. That solves about five minutes of 
questioning, maybe 10.

I would just like to refer to the 
disposition of comments in the document, the CNSC 
document. It refers to the VECs that were 
previously discussed with Northern Saskatchewan 
EQC. It says:

StenoTran
"Cameco intends to discuss VECs with the EQC again in July 2004." (As read)

I am just wondering if there was any report on those discussions.

MR. JARRELL: John Jarrell for the record.

Yes. I am going to ask Glen White who actually participated in those discussions, maybe just to give you a summary of the discussion.

MR. WHITE: Glen White for the record.

Yes, that discussion with the EQC on VECs did occur or at least start to occur in July. I think the EQC are still considering the approach that they would like to use for dealing with VECs for this assessment and other assessments in the future and I think they have comments that are specific to this so we can leave that to them.

MEMBER DOSMAN: Thank you. I think this question is appropriate, Madam Chair. Tell me if it isn't.

Does Cameco expect any undue
stress on the part of workers to ramp up production to this level presumably without a significant increase in staffing?

Is that okay for this session, is that the next session?

THE CHAIRPERSON: I am sure it is going to be covered assuming it goes forward into a licensing change, but there may be some early comments that Cameco wishes to make at this stage or may not wish to.

MR. ROGERS: This is Terry Rogers for the record.

Dr. Dosman, we view this, because of the history and specifically if we look at last year post -- when we got back into production, the rate at which we produced for 2003 after the flood event was at this level month after month, month on month. So we have increased the efficiency of which we changed the mining areas and things like that, but we don't see any undue stress.

Frankly, with another machine, we would have another crew running it.

MEMBER DOSMAN: Thank you for that comment.

I would like to raise an issue
relative to the deposition of waste. The statement has been made in one or more places that there isn't more waste rock, there isn't more waste, it simply arrives sooner, the train arrives sooner. There are only so many trains.

I just wanted to kind of raise the question of whether that is really the case. By extracting more earlier aren't you leaving the door open that with improved production techniques and so on over the years that you actually may in the end result in -- there may be more waste as a result of more waste arriving sooner?

MR. ROGERS: Terry Rogers for the record.

I don't believe it is the case. We will have more waste sooner, but in light of ongoing exploration activities and other possibilities the reserve itself at McArthur River stated here at 450 or so million pounds, you know, may increase over time. That is an ongoing thing with our exploration departments.

It is likely that -- I don't want to say likely because I think that is a forward-looking statement, but certainly we hope that the reserve base of McArthur River would
increase in time. So it would be a bigger project ultimately than it is now, but we are just gathering information to that effect.

MEMBER DOSMAN: So is the answer to my question, yes, possibly?

MR. ROGERS: The answer is no given the size of the reserve as it is now.

MEMBER DOSMAN: It is a fine point really, but I guess the fact remains if more arrives earlier and there are enhanced production techniques or additional nearby reserves that could result ultimately in more waste by a certain point in time, perhaps we are splitting hairs.

MR. JARRELL: If I could offer a comment?

I think perhaps what you are driving at is the efficiency of extraction, whether that affects the rate, for example, is there some uranium resources that is left as a result in the pursuit of it at a higher rate, and I don't believe that is the case.

MEMBER DOSMAN: But would you agree that if over the years extraction rates do improve or so on it does leave the possibility of more waste?
MR. JARRELL: I would offer the comment it is probably the price of uranium that is as much a factor as anything.

I will give you an example. One thing that we found even with the current operation is we obviously have to control the amount of cement that is generated from overboring, from trying to extract that resource, but my own personal view is that probably relates more to the value of the resource.

MEMBER DOSMAN: So that if uranium increased to $100 a pound and so on, then likely the net result would be more waste because the whole scene changes in terms of what you can do.

MR. ROGERS: Dr. Dosman, this is Terry Rogers.

We have some mining techniques we are exploring that may result in actually less waste. We have just a prototype of an expandable reamer that makes a smaller hole in the waste rock below the ore body and then as it gets into the ore it is larger so it is possible, but we don't have a plan that says this is how much waste is reduced.

But at $100 uranium there are
going to be mines all over the world that are
going to be increasing and lots of money spent on
exploration. There will be much more uranium
found. That is the nature of the market.

MEMBER DOSMAN: Thank you. I
think we have pursued this sufficiently.

THE CHAIRPERSON: Dr. Barnes.
MEMBER BARNES: I have several
lines of questions here.

I was surprised in this document
that we received that there wasn't actually a CMD
from Cameco apart from the PowerPoint
presentation. Is this normal in this case?

Basically, we have a staff CMD
which refers to two letters, letters of intent.

THE CHAIRPERSON: This is a good
opportunity to actually clarify then the EA
process. Perhaps staff could comment on that and
that would clarify exactly where the
responsibility lies.

MR. RINKER: Mike Rinker for the
record.

The Canadian Environmental
Assessment process actually applies to the CNSC.
This is a process for which we must follow. We
can delegate certain portions of this process to
the proponent. However, it is our process and
these are the CNSC guidelines for this particular
assessment. So our CMD is certainly required and
Cameco is welcome to participate to whichever
level.

MEMBER BARNES: I guess this is
being triggered by a request by Cameco to increase
production and it has to be, as I read aspects of
the guidelines, it had to be justified why there
was a certain need. Therefore, I find it very
strange that we are here today without actually
any text from an applicant indicating the need for
this process, apart from the letters that have
gone to you which aren't part of the more public
record here.

THE CHAIRPERSON: Staff should
answer that.

MR. RINKER: Mike Rinker.
The need is a requirement for the
assessment and so when they come in with a study
report that has been delegated to them, the need
should be adequately described at that time. It
is not a requirement for the guidelines.

MEMBER BARNES: Second in federal
agencies I wondered why DFO, NRCAN and Environment Canada weren't regarded as federal authorities that could provide expert assistance, agreed somewhat peripheral but nevertheless they appear to me agencies. Were they contacted or requested?

MR. RINKER: Yes, they were contacted and they declined to participate. I could only speculate on why, but they did not provide a justification or rationale when they declined.

MEMBER BARNES: In your view, is their absence from participating likely to be significant?

MR. RINKER: No, I don't think it is going to be significant. We have adequate staff with the sufficient capability to assess the proposal. If something comes up during the assessment, we have not seen the assessment, we can certainly invite their technical experts to participate at that time.

MEMBER BARNES: Certainly in terms of the scope of the project there is a difference in reading the text of the staff CMD that I will read you. Actually, the same kind of statement occurs on a couple of pages. But under your
section 3, "Cameco Corporation Proposal", which is on the first page, page 1, right at the bottom, about five lines up from the bottom it says:

"The EA will evaluate the incremental environmental effects resulting from the proposed increase in production."

It occurred to me at the time that it should not just consider the incremental effects but the incremental and cumulative effects. It appeared on page 4 the same thing. It was just referring to the incremental. This may be again hair splitting, but to me incremental means you would only focus on the addition as opposed to what the addition means to the total aspect. So when one looks at Appendix A under 9.1, number 9, which is on page 6 of Appendix A, then under 9, about one-third up from the bottom it does say "Cumulative Environmental Effects". Are you with me?

Can I be assured that this EA will in fact look at the incremental and cumulative effects of what is being proposed?

MR. RINKER: As Mr. Scissons
indicated earlier, the issue of cumulative effects is not as straightforward as the question implies.

A cumulative effects assessment under the Canadian Environmental Assessment Act is an assessment of any residual effects associated with a project that overlap in time and space with past, current or future projects. In this case, the current operations would be a current project where the project that is under assessment or under consideration today is the incremental project to achieve this production increase.

Should the incremental project cause a measurable residual effect, it is certainly in the same receiving environment as the current operation, so that would trigger a cumulative effects assessment.

If the incremental project does not cause an effect on the existing environment, then we would not look at the cumulative effects assessment.

A cumulative effects assessment, if I could use an analogy, is to ensure that the project is not the straw that broke the camel's back in terms of significance to the environment. If the project has no effect on the environment,
then we don't assess the other projects to
determine significance.

MEMBER BARNES: That assumes that
in looking at the incremental aspects that -- I'm
not sure in the way you put it that you could
actually look at incremental without at least
asking yourself the question: does this have any
cumulative effects?

For example, the ammonium plume
that was referred to earlier, we are going to see
an increased input through the mill, so
irrespective of the specific cause of the ammonia,
if that was a steady flow of ammonia coming out,
this presumably might lead to an 18 per cent
increase in the ammonia plume. I will use this as
a kind of example. It doesn't matter if it is
correct or not. But it could be that that 18 per
cent did in fact break certain camels backs here,
right, was significant?

So the question is, in the
analysis of that incremental component who asked
the question is this going to lead to a cumulative
effect as opposed to just an incremental effect?

MR. RINKER: The question on
whether a cumulative effects assessment is
required really is -- you know, we are discussing a hypothetical situation so I am trying to explain the process of going into a cumulative effects assessment.

If the assessment indicates that there are measurable effects associated with the project we would go to a cumulative effects assessment. It is one thing to look at effects annually and it is another thing to look at effects over a project.

For example, if we have an increased effect -- increased loadings, for example, during one year but they only occur for 15 years instead of 20 years, there is going to be a judgment call from our technical review committee to determine whether that is an incremental effect or not.

MEMBER BARNES: Okay. Two more questions, if I may, Madam Chair.

Obviously, we are dealing with two components here. One is the McArthur River mine and one is the Key Lake mill. The link between them is transportation which has been indicated that again it is a modest increase by Cameco, presumably it is an 18 per cent increase or
thereabouts.

Again, in Appendix A I had trouble finding where transportation would be covered, mainly because it just doesn't say transportation so it could be in there with other things and maybe you could just assure us that it would be covered somewhere.

I could also ask the question, given the fact that this might be a significant link because it is between the two components, should it have a higher profile than the standard template that may be more applicable to other things should it be in there as a specific heading?

MR. RINKER: The way that is identified is it is identified as the haul road. The haul road that connects the two sites is part of the assessment. It wasn't called transportation, it was called the haul road, which would include truck traffic and potential effects associated with that. So I hope that covers what you are asking for.

MEMBER BARNES: That would include the spills and so on? Yes. Okay.

Finally, 9.2.1 which is the
preliminary decommissioning costs, is again very brief as one might expect in this document, but would we expect in the full EA that the applicant would give a more specific recalculation with CNSC of decommissioning costs?

MR. SCISSONS: Kevin Scissons.

Regarding any preliminary decommissioning plans or upgrade to preliminary decommissioning plans and financial assurances, we would assess that during the CNSC licensing phase and process. If there is to be increases in that, we would catch it under the next phase of the licensing with the CNSC.

THE CHAIRPERSON: I wonder if I could just go back. I apologize, Dr. Barnes, if I have misunderstood but I just wanted to clarify.

Dr. Barnes talked about federal authorities. On page 3 of CMD 04-H20, I note that Health Canada and Natural Resources Canada have been identified as federal authorities, so they are identified. It is DFO who I noted, because that was one of my questions, was that DFO was not noted as a federal authority and Environment Canada.

I would like to come back, you
talked about speculating which I don't really want you to do, but normally would those agencies look at their own Acts for the applicability. Is that not the -- just like us, you know, just like the CNSC? If it isn't in our Act we don't get involved. Would that be the real decision point for them?

MR. RINKER: Mike Rinker.

What I understand their decision point was is that this is the same or that it is being mined at the same mill, coming from the same mine just a little bit faster and they didn't see that as a change in the project that was assessed previously.

THE CHAIRPERSON: Like navigable waters, for example, or something, you wouldn't see any changes to that. Is that right?

MR. RINKER: That's getting to the point -- their letter was two paragraphs simply stating they are not involved and then it was secondary conversations. This aspect of their Acts did not come up in those conversations.

THE CHAIRPERSON: But they would be kept informed as part of the -- are they not part of this coordinating environmental group?
MR. SCISSIONS: Yes. Kevin Scissons.

They are still members and players in our joint regulatory review process, so the environmental assessment reviews, ongoing licensing, they will be captured in it.

We basically follow the federal coordination regulations where we asked them, we gave it to them in writing and they responded in writing and declined to be identified as an FA, and we are moving forward with their letters. But we will clearly keep them in the loop under our other regulatory processes, the joint regulatory process on this project as it is currently licensed, presumed to be licensed, and eventually down the road with this production increase assessment as that proceeds as well.

THE CHAIRPERSON: Mr. Jarrell, do you have a comment?

MR. JARRELL: Yes. John Jarrell for the record.

I would like to think that at least some of the reason for this confusion is our blindingly brilliant project proposal, but I think that is pushing it.
What we did try to do however in this project proposal was to make the case for the fact that this may or may not require an EA, so we went to great lengths actually to write the EA into the project proposal.

I believe that probably influenced the decisions of some of the regulatory agencies to some extent. Of course in the current EA I think we have to prove the case that we made in our project proposal.

The other point I would make is simply to say that this is part of a continuum, that certainly there is a joint regulatory review group that basically assessed virtually everything we do, so whether or not they are officially declared agents in this EA I still think they will have a strong input into the process going forward.

THE CHAIRPERSON: So that would also include Saskatchewan Environment, for example, who are part of the greater group in the longer term. I just wanted to clarify that to make sure because that was one of my questions I wanted to make sure -- yes?

MR. RINKER: Mike Rinker.
It just occurred to me that they also declined -- that they are not a responsible authority in their letters, and that, being a responsible authority, would be triggered through their Act. So they did indicate they are not a responsible authority, which indicates they looked at their Act and said that they have no involvement there.

THE CHAIRPERSON: So it is at two levels, as a responsible authority and also as a federal authority. Okay. That's fine.

Did you have a point on that? No? Just further questions.

Dr. Barnes, you have completed?

Dr. McDill.

MEMBER McDILL: Thank you. My question relates to 9.2.1 and the project description and the great long list of bullets.

I noted that the source of drinking water was requested by Health Canada and I am wondering, with respect to what we are aware of with this site if there shouldn't also be a source of additional wash water identified particularly with respect to what happened.
And the other one, we had the sources and characteristics of any fire hazards and I wonder if there shouldn't be a bullet for sources and characteristics of any water hazard.

I was wondering if staff might comment on that, and obviously Cameco as well.

MR. RINKER: Mike Rinker.

If this is a request from the Commission who is responsible for approving these guidelines, they will certainly be added to the list.

MR. JARRELL: John Jarrell for the record.

I think perhaps part of the reason for these questions is the fact that our potable water systems are largely provincially regulated, so I think what we are seeing here is a bit of interplay between sort of federal authorities and provincial authorities at least with respect to drinking water.

MEMBER McDILL: I will try and be a little clearer.

In the disbursements of comments it was Health Canada who asked for drinking water to be added, and I believe that is why it was
I am just wondering, being very careful, with the requirement to produce wash water for floors during the flooding event, if there shouldn't also be here a clear statement of where additional wash water will come from for lunch rooms and -- hands.

Thank you.

That is one part of my question.

And the other part of my question is, we now are very aware that fire hazard is a real hazard and water hazards are a real hazard, and I am wondering if it would not be -- I am asking for comments, now from Cameco, I guess, as to their feelings on that.

MR. JARRELL: John Jarrell, for the record.

Probably the easiest approach is in the EA to ensure that we discuss both those aspects in terms of the implication of an 18 percent increase. I think that is probably the best answer I could give at this point.

THE CHAIRPERSON: Any further comments from the staff on those proposals?

MR. SCISSONS: Kevin Scissons.
That fundamentally would probably be caught under the larger bullet about key operational procedures relevant to protection of workers, the public and the environment relating to the project. 

Now that is a pretty broad statement there, but the risks of ground fall conditions and water, fire, all of those other issues, really come to play.

We would be looking for that kind information coming through, at least identified in the EA process, and then again, then into more detail during our licensing review process if this project is to proceed.

So we have made note and we can add those components to this guideline.

THE CHAIRPERSON: If we say that you should do that. As Mr. Rinker said, it is the Commission who will make those decisions.

My question is with regards to incremental and cumulative effects. Dr. Barnes has talked a little bit about this.

I think this might be helpful, for the record, if you just give us a definition -- not talking about the various issues of putting it
in here or whatever, but just talking about -- it
starts out with the incremental impact of this
project leading to cumulative.

Could you just kind of perhaps
restate that one more time, away from the idea of
adding or whatever. Just to give us some sort of
definitional basis.

I think this is important for
intervenors as well because this is really the
impact in the long run and I don't think it is
completely divorced from the question that
Dr. Dosman asked because, if this project goes
longer, further, you know, more property comes in,
I mean, this becomes a cumulative effect in the
long run in terms of the area.

So I really do think it is an
important aspect. So perhaps you could give a
swing at that and, assuming that this is approved,
that that would -- those kinds of definitions and
that clarity -- be seen as we go forward with the
EA.

MR. RINKER: Mike Rinker.

I guess I will start with the
project description that is, the project that is
to be assessed here.
We are talking about incremental activities of the same current operations. So there is some activities in addition to what are currently happening to achieve this production increase, and it is the production increase that is under assessment.

Therefore, the project are those activities required to increase production. It is therefore those activities that are being assessed, and the impacts related to those activities I am calling the incremental effects. So the incremental project caused incremental effects.

If those effects are greater than the effects of the current operations, then we have effects related to the project under assessment.

We need to look at a cumulative effects assessment, meaning --

An accumulative effects assessment, by definition, is an assessment of the project under review, together with any past, current or future projects that would have effects in the same geographic area and time.

So, should this project have
measurable residual effects? Then, by definition, because it is in the same environment as the current operations, will occur in the same time and space. Therefore we have a cumulative effects assessment.

If the effects of this project cannot be distinguished from the effects of current operations, we have no residual effects that would lead into a cumulative effects assessment.

THE CHAIRPERSON: I would like to know -- it is not a question -- I would just like to know. It is the first time, in my memory anyway, that we have had a company actually talk about their plan going forward in terms of this project.

I guess it could be seen in two ways. It could be considered good planning, which I think is something that the Commission has wanted, you know, industry to talk about in terms of planning. But it could be considered also to be sort of a sense of a very tight timeline that the staff are facing.

I won't ask the staff to comment on this because I don't think that is the right
message to leave, but I would just like to note that, in my experience here, that the most important timeline that has to be done is the licensees putting forward the required project, just whatever that is, the EA or whatever, in a complete and timely manner, that that seems to be one of the most important critical paths for this. So I would just like to leave that with the licensee and to ask you if you understand that the most critical element in this tends to be the better prepared you are, the better prepared the assessment can be.

For the record, that is a yes.

MR. ROGERS: For the record, that is a yes. Terry Rogers.

Thank you.

THE CHAIRPERSON: Thank you.

I would not ask the staff to respond to the timing because that wouldn't be the right thing to do.

Second set of questions, Mr. Graham.

MEMBER GRAHAM: Just a question, and maybe it is not relevant. If I am out of order, please say so.
Under 7.0, Scope of the Project, listed there, a group of bullets. They are under the scope that will be undertaken at the Mill.

One thing that I was wondering, under Decommissioning and Disposal of Equipment, either at time of decommissioning or at time of modernization at anytime ongoing if the Mill is expanded and so on, should that be something that would be considered as part of the scope, is the safe disposal of equipment whether it is contaminated or not?

And I ask that to CNSC staff. Should that be a bullet or is that relevant?

Page 4, under 7.0 Scope.

MR. RINKER: Mike Rinker.

No new equipment has been identified. I know I talked about some equipment that may be required.

So that is because that equipment has not yet been identified, but will be identified within the project description of the environmental assessment. It is difficult for me to say yes to that.

If there would definitively be
extra equipment that was required for this
production increase, I think it would be
appropriate to add it.

MEMBER GRAHAM: Okay.
The other question I had was with
regard to 9.2.1. I had the question and I found
it. It is one of the bullets with regard to
physical security systems.

But I am just wondering, general
security is one of those bullets under
Construction, modifications and normal operations.
Should security, the general security, because of
the nature of the product that being produced and
everything else, would that third last bullet
really, it addresses the physical security
systems, but I am wondering about general security
of the product and so on, and theft and so on, if
that would be part of one of those bullets, or if
that is relevant also?

--- Pause

Sorry. It is on page 8, and it is
the third last bullet on Construction,
Modifications and Normal Operations, on page 8,
about three quarters of the way down.

--- Pause
THE CHAIRPERSON: I believe that is quite standard language. So would it include the matters that Mr. Graham has put forward?

MR. RINKER: Mike Rinker.

The security systems that are intended to be encompassed in this bullet are those that, upon their failure, may result in environmental impact.

Security systems that may not cause an environmental impact based on their security would not be included in an environmental assessment.

THE CHAIRPERSON: However that would come in licensing.

Other questions?

Dr. Dosman.

MEMBER DOSMAN: Madam Chair, just on Mr. Graham's point, I noticed when we visited the mine that the material comes down from this bore and is put in these kinds of remote control Tonka trucks that zip off to dump the materials -- I don't really mean to be too levitous, -- but into a mill, and then the slurry is created.

I am just wondering whether this document includes that portion of the process at
McArthur Lake. I mean, there is a certain milling operation, I guess, that occurs at McArthur Lake in order to create the slurry that is trucked out. Does this document cover that aspect of the operation?

MR. SCISSONS: It is Kevin Scissons.

Basically it does. Yes. The more ore mining and handling at McArthur River, including right up to the ore slurry, is all part of the overall project.

There may be some increased activity or duration to produce more of it over the life of a project, but that component as you described on the mining and the underground milling of it at McArthur would be addressed in the project.

MEMBER DOSMAN: Thank you.

THE CHAIRPERSON: Any further questions?

Thank you very much.

This ends this part. We are going to then move to the intervenors.

Before I start I will remind the intervenors again that we have allocated about ten
minutes for your presentation and your written submission has already been read and duly considered, and it will be duly considered in our decision.

04-H20.2 / 04-H20.2A

Oral presentation by the Canadian Nuclear Workers Council and the United Steel Workers of America, Local 8914

THE CHAIRPERSON: I would like to then move to the oral presentation by the Canadian Nuclear Workers Council and the United Steel Workers of America, Local 8914, as outlined in CMDs 04-H20.2 and 04-H20.2A, and I will turn to Mr. Telfer again.

Do you have any comments to add?

MR. TELFER: Yes. Drew Telfer, United Steel Workers and Canadian Nuclear Workers Council.

You have a report, a written report, but in this area of environment, it is important for the regulatory groups to understand that the most important, I believe, people, in this whole thing, is the people actually working on site. They are some of the best watch dogs
that you will ever have.

And I believe that Cameco has given us an opportunity to set up environmental committees with workers to address any environmental issues that arise.

This is our process and this is something we have worked hard to achieve because this is our backyard. In particular with our Northern and Indigenous people. They watch that very closely.

I think that from the environmental standpoint, from our standpoint, we believe that, as workers in the industry, we will be the first ones to let anybody know if anything has transpired or affecting the environment.

And that is our position.

THE CHAIRPERSON: Thank you.

Are there any questions with regards to this intervenor?

MEMBER DOSMAN: Thank you, Madam Chair.

I would just like to ask Mr. Telfer if he or his union see any a radiological or non-radiological occupational risks from the enhanced production?
THE CHAIRPERSON: Perhaps I think I would re-word it as saying that, based on the guidelines, if they feel that those issues would be adequately covered because we are going to go to the assessment and you will be having a chance to comment on the assessment, but right now we are just doing the guidelines.

MEMBER DOSMAN: Yes. May I ask that question in the context of the guidelines?

Thank you for direction, Madam Chair.

MR. TELFER: Repeat that again, please.

MEMBER DOSMAN: Whether you think that the guidelines as presented will adequately assess any increased radiological or non-radiological risk to workers.

MR. TELFER: At this time, we believe that is correct. We are in agreement with that.

MEMBER DOSMAN: Thank you.

THE CHAIRPERSON: Further questions?

Thank you very much for your
participation over all three hearings and thank you very much for this.

Clearly, this is an area of the environment which is very important to us as both the federal authority, but also under our own act.

So you are right. The ongoing is very important to us too.

So thank you.

04-H20.3 / 04-H20.3A

Oral presentation by the Northern Saskatchewan Environmental Quality Committee, South Central Subcommittee

THE CHAIRPERSON: I would like then to turn to the next presentation which is the oral presentation by the Northern Saskatchewan Environment Quality Committee, South Central Subcommittee, as outlined in CMD documents 04-H20.3 and 04-H20.3A.

I believe that Mr. Bobby Woods is going to be giving us the presentation this afternoon.

Mr. Woods, the floor is yours.

MR. WOODS: Thank you, Madam Chair.
Good afternoon to you.
Commission members, ladies and gentlemen.
It gives a great pleasure to once again have the opportunity to address the Commission on behalf of the Northern Saskatchewan Environmental Committee or commonly known as the EQC.
We are here today to discuss the environmental assessment project specific guidelines for the proposed production increase at the McArthur River and Key Lake Projects.
Once again, my name is Bobby Woods. I am the mayor of the Northern Village of Buffalo Narrows, the community that I represent on the Northern Saskatchewan Environmental Quality Committee. Additionally, I am chair of the West Side Subcommittee of the EQC.
Both the Key Lake Mill Site and McArthur River Mine Site report to the South Central Subcommittee of the EQC, of which Buffalo Narrows is a member community.
Over the operating life of both these facilities, Cameco and its predecessors have learned to involve Northerners and northern
communities through organizations such as the EQC, but also by coming to our communities and meeting the people of the region.

As recently as this spring, Cameco spent time in several of the South Central communities to inform local residents of the status of their operations as well as their plans for the future.

The South Central Subcommittee of the EQC has visited the Key Lake and McArthur River sites at least once per year. In the case of Key Lake, it has been since the inception of the EQC and, in the case of McArthur River, since the beginning of construction.

The production increase at these two facilities has been presented to the EQC, both at our site visits and at the all-EQC meetings held off-site over the past couple of years.

The most recent project presentation was done at the all-EQC meeting held on July 15 and 16 in La Ronge.

Over the course of a number of the presentations, the EQC representatives have had an opportunity to ask a number of questions regarding the project and to have our questions answered.
The various presentations have given the EQC representatives a better understanding of the purpose of the request for production increase and also an opportunity to understand some of the changes that would be required on site to accommodate the production increase.

In recent years, the EQC has been involved in a number of environmental assessments. We have come to understand that the purpose of an environmental assessment should be to ensure that the activities carried out as part of a project have no significant effect on the existing environment.

We have also come to understand that, by consideration of decommissioning at the environmental assessment stage of a project, our land should not be compromised once the mining and milling operations have been complete.

It is our understanding that the project specific guidelines are developed to ensure that the scope, from project start to project end, of the assessment, it is clearly defined, both for the proponent as well as for the public and the regulators.
The guidelines should provide focus for areas of higher concern for a project and minimize the effort for areas of no or very low concern.

Public involvement in an environmental assessment is two fold, from our perspective. Firstly, the public has the opportunity to hear what is proposed in their backyards before any physical work has been done. Secondly, the public has the opportunity to identify any gaps of specific local situations that a proponent should be aware of and factor into the project up front.

For this uranium project, and others in Northern Saskatchewan, the proposed project guidelines acknowledge that the northern people in the area of the project should be consulted on the plants and animals that are most important to us for food, commerce and culture. These are listed as Valued Ecosystem Components, or VECs.

In addition, other species are added to the lists for scientific reasons.

Over the past couple of years, as
a requirement of the regulators, the EQC has been consulted five times for input to the list. As you could imagine, this can become a bit much. We would propose that the VECs for Northern Saskatchewan Uranium Projects be reviewed by our group once every two years, that being once during our term of appointment.

The list could then be submitted to both operating companies and regulators for use on all projects proposed within our term.

As representatives of the EQC, it is our job to explain to the elders and others of our communities what is going on at the various uranium sites.

It is also our job to bring the concerns and Traditional Ecological Knowledge, or TEK, of our elders and other community members forward to the EQC table.

Over the last decade, a great deal of information has been exchanged. Some of it has come through the EQC table and some of it has been through public meetings or during the Joint Federal-Provincial Panel on Uranium Development.

As a result, some of the best documented information or TEK for the development
area has been collected through the uranium mining operators.

As representatives to the EQC, we request one addition to the screening report that the CNSC will be preparing at the conclusion of the environmental assessment study.

We request that the CNSC prepare a mitigation table which will identify the specific mitigative measures, the monitoring process, the agency responsible for ensuring the monitoring is completed within acceptable levels, and finally, the agency responsible for communicating this information to the public and affected parties.

The reality of the public consultation is that it requires patience, education and a willing listener.

Once the public has been consulted in a manner that will produce an informed perspective, the listener must be prepared to address the questions or concerns that have been raised in a respectful and logical manner.

The people of Northern Saskatchewan have come a long way since uranium mining began in the area. Our knowledge has grown because we have been patient and we have learned
along the way.

We are listening for answers to our concerns so we may grow more.

The documents received in preparation for this hearing indicate that the CNSC received the Cameco proposal for this project back in 2002.

Following this hearing on September 15, 2004, it is our hope that, having duplicate opportunity for public consultation through the CEAA process and the CNSC process, that the Commission will feel comfortable in approving the environmental assessment project specific guidelines.

This will initiate the first step in approving a proposal received by the Commission nearly two years ago.

In closing, on behalf of the EQC, I would like to confirm our support to the Commission approving the project specific guidelines for the proposed production increase at Key and McArthur.

It is our hope that some of the concerns we have identified in our presentation today, that it will be used to improve the
efficiency of environmental assessments process in the future.

I also want to add that we use our primary source of information for our decisions from the EQC, and that primary source of information to me are people that work directly at the site.

I tell you that if there is a concern or a question, they will ask us, and in turn, we go back and get the answers for them whether it is through to the proponents or through our managers. Anyway we possibly can get it.

I say that because I want to confirm that we are not making decisions based only on employment and economic benefits.

Again, I add to that that I was told after the last hearing that we have had that, you know, you don't only say things because you want to keep people working.

I assured them that our position is also the same as Maisie Shiell has alluded to earlier, that the present and the future generations are very important to us and we want to continue that.

With that, we have been given no
reasons to otherwise believe that other than the
information that is presented by the proponents
that the project is safe and that things can
continue on.

One of the other things that we
have -- and I think I mentioned it at the June
hearing in La Ronge -- we have a newsletter we
call Opportunities North.

There is a column in there that is
titled "You were asking". We get questions from
all over Northern Saskatchewan and we put the
answers in there. We pose the questions in there
and we put the answers in there.

There has been very little
concern. The topic of the present proposal was in
there, and we haven't got, you know, much feedback
in regards to -- I should say much negative
feedback. We have got more, I guess, positive
stuff.

So, with that, I thank you again
for listening and I am very pleased to be here.

Thank you very much.

THE CHAIRPERSON: Thank you very
much, Mr. Woods.

Any questions from the --
Dr. Barnes.

MEMBER BARNES: Just to our staff.

Would you be agreeable to putting
the request in that is specified at the bottom of
page 5, that is to -- CNSC prepare a mitigation
table, et cetera?

It is a long sentence at the
bottom of page 5.

Is that appropriate to have some
assurance that that would be in the EA?

MR. RINKER: Mike Rinker.

I think it is an excellent and
very useful idea. So the short answer is yes.

I would like to follow up with a
comment that monitoring programs that tend to come
out of an environmental assessment are generally
based on a follow-up program.

And a follow-up program has two
goals. One is to ensure that mitigation measures
are performing appropriately, and the other one is
to ensure that predictions in the environmental
assessment are as predicted. So there is two
things here.

I would like to propose that,
instead of a mitigation table including all the
suggestions that are recommended by the EQC, but also to include monitoring that is simply based on predictions and not necessarily mitigation. So that may provide a more comprehensive table. So it is in addition to what was requested based on, I think, a very useful suggestion.

THE CHAIRPERSON: Is that satisfactory, Mr. Woods?

MR. WOODS: Yes, it is. Thank you.

THE CHAIRPERSON: Perhaps what you also could do is look at this as some kind of a pilot for that and if it works we could use it for other ones as well.

There is another suggestion which has to do with the Valued Ecosystem Components. Would you like to comment on that?

MR. RINKER: Mike Rinker.

I have two comments. Unfortunately the EQC has already been consulted for this particular project. So we couldn't implement such a suggestion for the guidelines that are under consideration.

But certainly for active mines
that go through repeated environmental assessments, having a standing Valued Ecosystem Component list that is reviewed every two years helps everybody. It is another excellent idea.

But, because we are talking about the CNSC process, rather than environmental assessment guidelines, I would just like to put in the qualifier that this is a process that we will implement for our projects in which the EQC is involved, and not in the larger context.

THE CHAIRPERSON: The EQC made some comments very diplomatically, may I say, on page 6, with regards to efficiency of the process, et cetera.

Would the staff like to comment, either in general or in the specific terms about some of the efficiencies and the way forward on that perhaps?

MR. SCISSIONS: Kevin Scissons.

In relation to the reference on the slide in page 6, I believe it was in relation to the potential delays in a two-year process.

Mr. Rinker has also identified it in his comments on slide 5, in the sense that we were dealing with the province of Saskatchewan and
their environmental assessment process.

So when they finalized it and responded to us in June of 2004 and this summer, we opted to go ahead very quickly, really, in getting this onto our table, putting the guidelines out. The environmental hearing proposed for this came out, and Mr. Rinker can provide more specifics to it.

So we actually responded very quickly after the province confirmed their EA process was complete and we could now move into just a CEAA process with the CNSC being the responsible authority. There was no joint provincial-federal EA process.

So once that decision was made by the province we moved, I would think, very, very quickly.

Mr. Rinker, may want to add the date on that.

Once that decision was made by the province, we moved I would think very quickly. Mr. Rinker may want to add the date on it.

THE CHAIRPERSON: Maybe I want to ask a further question before he comments.

Why wasn't there a joint
federal-provincial process?

MR. SCISSONS: Kevin Scissons.

There was no joint

federal-provincial process because it was not

required by the province. A minister's decision

confirmed that, that that wouldn't be required, so

we were waiting for -- their ministerial decision

confirmed that they wouldn't need it. So they

didn't need to do the EA so, thus, there was no

joint EA required.

Having said that of course we will

continue to communicate and have the Saskatchewan

Environment involved in the environmental

assessment and basically our joint licensing

process --

THE CHAIRPERSON: So if I

understand, you couldn't launch a joint one

because you didn't know if you needed one or not

and then you didn't need one.

MR. SCISSONS: Yes.

THE CHAIRPERSON: So it was this
decision that took the time from their point of

view.

MR. SCISSONS: Yes. That's
correct. Once the province confirmed there was no
need for the joint, then we went on our own and
that followed after June of this summer, June of
2004.

THE CHAIRPERSON: But can the
staff confirm that they are interested in
deficiencies in this process?

MR. HOWDEN: Barclay Howden
speaking.

Yes, we are currently undergoing a
CEAA implementation review, implementation as in
CNSC implementing their responsibilities under
CEA. That is ongoing now as well as there is
tracking of three projects, part of it to make
sure we know exactly what the process is in detail
such that we can find deficiencies in the process
while not sacrificing the effectiveness.

That is ongoing with the
expectation that the completion of the review will
be done by about December of this year.

THE CHAIRPERSON: I would just
like to reinforce, both for the EQC and for
others, that I think it is very helpful when
parties come forward with ideas for suggestions
for the processes. I think it is easy to forget
that the EA is a planning tool and it can only
plan if it has some clear direction, so thank you
very much for offering those suggestions. We
welcome any suggestions in the future and from
others as well that will be reading this
transcript.

Thank you very much and again
thank you for taking the time to be with us.

THE CHAIRPERSON: I would like to
then move to the next submission, which is an oral
presentation by a Mrs. Maisie Shiell as outlined
in CMD 04-H20.4, 04-H20.4A. We are just waiting
now for Mrs. Sheill.

My goodness, technology is working
good today. Mrs. Shiell, the floor is yours,
ma'am.

04-H20.4 / 04-H20.4A

Oral presentation by Maisie Shiell

MS SHIELL: Thank you very much.

I would just like to comment
before I give my presentation, which I am going to
cut down a little bit, on what I have heard today,
if I may. But what has concerned me is that there
is very, very little, if any, I think the last EQC
did come near it, mention of the living organisms
when we are talking -- we say, oh, yeah, we are looking after the environment, but this means the water, you know, mainly and the air and often the workers, but not the -- I mean, nobody thinks of, unless you mention it, these creatures that are going to be having more and more -- where did I put my notes? Okay.

The VECs then, of course, are the organisms. As the EQC has just said, they see the VECs as what is important to their food supply. Now, these are valued ecological components and so I think they should include a great deal more then, and certainly -- I am certainly supportive of the fact that the native life goes on.

I am a tremendous admirer of -- and I think we can all learn a great deal from their culture, but I am still very, very concerned about the environment and about how this is being treated. You know, just, oh, yeah, well, we are protecting the environment, and that's about it.

Perhaps he did also mention, I am not sure, I wasn't sure, that in La Ronge I had pointed out that the invertebrates and the plants who are receiving all this material, nearly all -- that is their controlling thing, it is going into
these lakes, and these are receiving this, these creatures, and this radium is going to be continuing to decay.

There is just one other little reference which is to the radiation protection.

We have heard quite a lot about training, et cetera, et cetera, about radiation protection today, but it is all referring to radiation protection for workers or for the public in today's society and very little thought about protecting the radiation which is going to be continuing to decay. It is not going to stop when the mine stops, but of course it will be added to, but all that is out will continue to decay.

I think that this needs to be understood in the word "environment" and pointed out because this is the important thing. The creatures that are being hurt are these little organisms.

With that, thank you very much.

In section 9.2.1 of the EA guidelines, I think it was actually of the CMD, in section 9.2.1 it says, "Public views, including perceived changes attributed to the project" are to be recognized and addressed in the assessment.
methodology. Then again it also says that radiological characteristics are to be included. So I am going to be looking for that EASR and seeing are they including the radium in the environment, not only radium but all the alpha emitters that radium decays into, which are inevitable. They won't stop.

Therefore, I intend to list you my perceived changes that I am going to be looking for. I am just going to say what my perception is in Step 1. I don't know if you remember it, but it is written in my presentation there.

I am defining the project activities as the increased radiological contaminants from this super high grade of ore during construction and operation -- I mean the construction is going to be short-lived but the operation is going to go on for the life of this mine -- and maybe as was just said about reserves and malfunctions.

I believe the plants and animals living in the near-lake sediments should be included as valued ecological components since these are at the base of the food chain and, ultimately, they are the organisms on which all
human and non-human biota depend in the long term.

So if we think of what is going to happen to our children in the future, that is my concern.

My conception of Step 2 is the problem with these changes caused by the interactions -- now, this is the words of what is asked of them -- to look at the interactions. Then I substitute radium-226 plus progeny and the DNAs of the aquatic plants and animals living in the sediments and in the near lakes is that the cells in their genetic organs could be damaged but not all of them repaired. There is an experiment, I don't know whether you are aware of it, by Roots(ph) in 1990 I think it was that did quite a good experiment on this, but also in NCRP-104 there is really a large thing about this.

The alpha particles from the long-lived radium plus its progeny damage these cells by intense ionization and high energy. PSL-2 reported tests with gamma emitters of cobalt in which the embryos, and I am repeating myself here but it seems to me this is such an important example, the embryos of the polychaete worm had a significant increase in abnormalities at a fairly
low dose rate.

Then there was also the Blaylock report that reported an increased frequency of chromosomal aberrations at 2 grays per annum. Then they dropped it or as they watched it decay to 1 gray per annum there was still a very high number and it wasn't until it got down to 0.1 gray that these chromosomal aberrations decreased to the frequencies of the background populations. But no tests appear to have been done with alpha on the benthic plants or animals.

As the radium-226 continues to decay during future centuries, the environment in the long term may be seriously changed. Although I am aware that alpha kills the majority of cells, there was an AECB study, Thomas and McNeill, 1982, that said 60 per cent of the cells were killed in the experiments in their study, but they also show that 30 per cent of the cells had survived. It is the surviving cells that could be damaged and then inherited. This is where the problem comes in.

The studies of the effects of alpha radiation are badly needed. So that is why I am very pleased that you have got this CMD on it.
Mitigating measures. Well, prevention is the only mitigating measure available for radionuclides. Once these alpha emitters get into the environment, there are no mitigating measures available. So I don't see how it can be said that there will be no significant effects.

So one mitigating measure that I have been told about that is proposed is that one small lake, the Wolf Lake, could be filled or dredged at decommissioning, but that does not solve the contamination in Fox Lake and in Yak Creek and so on. The damage becomes a residual effect and I think I have heard people saying today that there will be no residual effects.

Well, I don't know. I have argued in my written paper about the 18 per cent increase and about how this will affect the biota. It will, as you say, speed up to sort of 15 years instead of 20 years; therefore, it will all come into the environment so why worry? But I think these incremental things from the effluent are my problem and by my calculations I made out that the 18,000 becquerels would be the difference between the two.
I have forgotten now, I haven't got my written one with me, but the 18,000, the difference was 8,600 becquerels. I have sort of lost my thought about what that is per. I don't know if you remember. You have read my written report.

I did make a mistake in that written report. I put 24,000. I was miscounting the radon. I put 100 per cent for radon. Radon will be -- two-thirds of it will waft away, but a third of it will remain in the organism is how AECB used to calculate it anyway.

The fourth perception then: the contamination of the near-field lake sediments and creeks likely will occur. The contamination of the near-field lake sediments will occur. The significance of the increased radium-226 is that it will continue to decay into polonium for several thousand years. This will continue to get into the plants and animals and be passed on to their predators.

Furthermore, the difficulty of repair, and I have referred to that earlier, the Roots(ph) thing, and I think there are guidelines, the CEAA guidelines I saw for 2003, that does
suggest that these two, the long term and the
difficulty of the irreversibility or the
reversibility, whatever it is, will have to be
considered, whether the impact is significant.

We can't see anything so we say
don't worry, it's insignificant.

I probably used my 10 minutes up,
have I?

THE CHAIRPERSON: Actually, my
clock says 14 minutes, but if you would like to
wrap up that is fine.

MS SHIELL: Thank you for giving
me the extra.

THE CHAIRPERSON: Do you feel that
you have had an opportunity to wrap up, Mrs.
Shiell?

MS SHIELL: Yes. I think I would
like to say a few more things, but it is written
down and I haven't got it right off the top of my
head here.

THE CHAIRPERSON: Thank you very
much.

As I mentioned, certainly you can
be assured that the Commission does read the
written submissions and take those into account,
so thank you very much.

Opening for questions. Mr. Taylor, would you like to start?

MEMBER TAYLOR: Thank you, Madam Chair.

In H20.4, Mrs. Shiell makes a number of specific proposals, changes to the EA guidelines. Will staff comment on the acceptability or otherwise of those proposals?

MR. RINKER: Mike Rinker, for the record.

I am going to respond to one of these and then pass it on to my colleagues.

On the top of page 2, there is a request to modify the scope of the assessment and to make some of the words slightly more meaningful as described in the intervention.

The scope of the assessment are the legislative requirements under the Canadian Environmental Assessment Act. Responsible authorities, for which the CNSC is for this project, don't have the authority to modify the legislative requirements of the Canadian Environmental Assessment Act, so the suggestion to modify section 8 of the environmental assessment
guidelines, we don't have the authority to go ahead and do that.

DR. THOMPSON: Patsy Thompson for the record.

In relation to the legislative requirements, some of Mrs. Shiell's proposals in terms of limiting the assessment to radium or some of the other contaminants would actually limit the scope of the assessment and could lead to an oversight in terms of what might be significant in terms of the project. For that reason, it would be difficult to support the suggestions.

The other issue is also that the wording suggested by Mrs. Shiell would result in assessments of effects at a level that are not seen in other assessments and are not carried by other agencies and I think would sidetrack the process that would lead to sound environmental decisions.

THE CHAIRPERSON: Let me probe that.

Your first comment, Dr. Thompson, was that to look into this would restrict the scope -- I better not use the word "scope" -- it would restrict the coverage, but is the reverse
true that some of the elements that Mrs. Shiell has recommended would be included in the work that you are doing now or not?

DR. THOMPSON: You are right. Only considering the wording that Mrs. Shiell has proposed could lead to the oversight of potential impacts.

With the wording that is currently in the guidelines, it is generic enough that effects such as those that Mrs. Shiell is raising would be captured in the assessment and a determination of their significance would be made.

THE CHAIRPERSON: Because I think that is important. That means that we are able to say that if there are effects in that particular area that it would be included.

The second comment is that perhaps you could repeat that because I really don't understand how we are encumbering other agencies by looking something as a federal authority. I just don't --

DR. THOMPSON: It was perhaps a poor choice of words. What I meant was the purpose of the Environmental Assessment Act is to determine the significance of potential
environmental effects. Potential environmental effects are defined as those that do or have a potential for affecting the survival, either in the short term or long term, of population, biodiversity and issues like this.

Currently, the consideration only of cellular and subcellular impacts and concluding that in effect the significance, because we see cellular effects, would lead to decisions that are not scientifically sound and are not environmentally relevant is what I meant.

THE CHAIRPERSON: Thank you. That is helpful.

Mr. Taylor, any further questions?

MEMBER TAYLOR: No thank you, Madam Chair.

THE CHAIRPERSON: Further questions? Dr. Barnes.

MEMBER BARNES: I just think it is worth pointing out, Madam Chair, that Ms Shiell made an impassioned statement in support of lower invertebrates and so on at the beginning, and that has been a concern on other occasions by other people. It seems to me that the document, the EA guidelines now do adequately cover this and I
would refer Ms Shiell to look carefully at particularly 9.2.2, which is entitled "Spatial and Temporal Boundaries of the Assessment", the second paragraph comments on:

"Study areas will encompass all relevant components of the environment including the people, non-human biota..."

It goes on to say:

"Study boundaries will be defined taking into account ecological, technical and social/political considerations."

9.2.3 which is "Description of the Existing Environment" says:

"Both the biophysical environment and the socio-economic ... environment are to be considered."

Under that listing of bullets, the last two there refer to aquatic ecology and terrestrial ecology.

Then there are issues under the
last bullet on that page, which is page 10, that refers then to things like fish and so on. So I think on other EAs this whole aspect of particularly the base of the food chain, lower invertebrates and so on, has been brought up before. Certainly, I think it is adequately covered now.

THE CHAIRPERSON: Thank you, Dr. Barnes.

Any further questions or comments for Mrs. Shiell?

Thank you very much. It has been a very long day out in Saskatchewan as well so thank you very much for participating.

This completes the record for the public hearing in the matter of the environmental assessment guidelines for the Key Lake uranium mine and McArthur River mine production increase. The Commission will deliberate and will publish its decision in due course. It will be posted on the CNSC web site and will be distributed to participants.