

**Canadian Nuclear
Safety Commission**

**Commission canadienne de
sûreté nucléaire**

Public hearing

Audience publique

AREVA Resources Canada Inc.:
Application by AREVA Resources
Canada Inc. for Amendment of
Uranium Mine Operating Licence
for the McClean Lake Operation

AREVA Resources Canada Inc. :
Demande présentée par AREVA
Resources Canada Inc. visant la
modification du permis
d'exploitation d'une mine d'uranium
pour l'établissement de McClean
Lake

October 24th, 2012

Le 24 octobre 2012

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

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

Commission Members present

Commissaires présents

Dr. Michael Binder
Dr. Moyra McDill
Mr. Dan Tolgyesi
Ms. Rumina Velshi
Mr. André Harvey

M. Michael Binder
Mme Moyra McDill
M. Dan Tolgyesi
Mme Rumina Velshi
M. André Harvey

Secretary:

Secrétaire:

Mr. Marc Leblanc

M. Marc Leblanc

Senior General Counsel :

Avocat général principal:

Mr. Jacques Lavoie

M. Jacques Lavoie

--- Upon resuming at 10:52 a.m.

THE CHAIRMAN: Okay, we're back, and we are proceeding with the next item on the agenda for today, and it's an application from AREVA Resources Inc. for an amendment of the uranium mine site operating licence for the McClean Lake operation.

Marc?

MR. LEBLANC: So this is a one-day public hearing. The Notice of Public Hearing 2012-H06 was published on August 16th.

Submissions from AREVA Resources Canada Inc. and CNSC staff were due on August 24th.

The public was invited to comment, in writing, on AREVA's application. September 24th was the deadline set for filing by intervenors. The Commission received no requests for intervention.

October 17th was the deadline for filing of supplementary information. It is noted that presentations have been filed by both AREVA and CNSC staff.

THE CHAIRMAN: Thank you, Marc.

I'd like to start the hearing by calling on the presentation from AREVA Resources as outlined in Commission Member Document 12-H9.1 and 12-H9.1A, and I

understand it's Mr. Martin who is going to make the presentation? Mr. Martin, the floor is yours.

AREVA Resources Canada Inc.:
Application by AREVA Resources
Canada Inc. for Amendment of
Uranium Mine Operating Licence
for the McClean Lake Operation

12-H9.1 / 12-H9.1A

Oral presentation by
AREVA Resources Canada Inc.

MR. MARTIN: Thank you. Good morning,
Mr. Chair, Members of the Commission.

I'm Vincent Martin, President & CEO of AREVA Resources Canada. Also representing AREVA here today are Jim Corman, V.P., Operations and Projects; Tammy Van Lambalgen, V.P., Regulatory Affairs and General Counsel; Dale Huffman, V.P., Safety, Health, Environment and Quality; and Jack Richards, McClean Lake, General Manager.

We are here in support of our request for the amendment to the McClean Lake operating licence. At the same time, we are here in support of the

implementation of a new licence format as part of CNSCs process to reform licences to improve the clarity and consistency of regulatory requirements and to streamline the administrative process while maintaining strict regulatory oversight.

The following slide outlines our presentation here today. First, I will provide an overview, following which I will turn the presentation over to Jim Corman who will review the remainder of the information pertaining to our revised licensing request.

As AREVA has not appeared before the Commission since 2009, I would like to offer a few comments on the AREVA Group, its mining business, and particularly our plans here in Canada.

In the wake of Fukushima and the world financial crisis, the AREVA Group has been facing difficult financial times. However, a strong action plan is in place and the group is already showing improvements on its way to return to self-financing next year.

AREVA is involved in mining activities worldwide. In a depressed market, we are still investing in two major mining projects, Imouraren in Niger and Cigar Lake here in Canada, while continuing to prepare other projects for the future.

Since our last appearance in front of your

Commission, we unfortunately had to make difficult decisions here in Canada resulting in moving our McClean Lake site in care and maintenance in 2010.

However, we are pleased to say that in 2012 we have turned the corner and started hiring and preparing for the restart of mill operations next year with the beginning of production of the Cigar Lake mine and the added challenge of facing very high-grade ore for the first time.

Beyond that, we are also preparing to move back to mining, although the timing will depend on market conditions and our financial situation. We have two projects that could add a feed to our mill at McClean; underground mining at McClean and the Midwest open pit Project.

We also continue to work on developing an alternate mining method referred to as the SABRE mining method, formally referred to as MED, on which we are continuing significant R&D efforts.

Although our activity is impacted by our financial situation, I want to assure you that in terms of safety and environment, our commitment remains absolute. We are proud of our record and will actively work at ensuring that our employees share the same culture.

Beyond our workforce, the foundations of

our business are these commitments to health, safety and the environment, as well as our social licence which requires our best efforts, dialogue with our neighbors, and to maximize Northern employment and business opportunities.

This concludes my brief introduction and I would like now to turn to Jim Corman for the remainder of the presentation.

MR. CORMAN: Thank you, Vincent. Jim Corman, for the record.

AREVA Resources Canada is the majority owner of the McClean Lake Operation which includes the Midwest site.

The McClean Lake operation is the cornerstone of AREVAs activities in Canada. McClean Lake is a uranium mine and mill facility located in northern Saskatchewan, approximately 750 kilometres north of Saskatoon. Since the onset of production at McClean Lake in the late 1990s, almost 50 million pounds of U_3O_8 has been produced from ore sources on the McClean Lake site.

Although designed and constructed for higher grade ore, with the delays at the Cigar Lake mine, the mill has not yet been used to process higher grade ores.

The McClean Lake mill was placed into care

and maintenance in 2010 due to the cessation of mining at McClean Lake in 2008 and the delays at Cigar Lake mine, which will ultimately supply uranium ore slurry to McClean Lake for processing.

Now, with Cigar Lake scheduled to commence production in 2013, AREVA is preparing for the commissioning and restart of milling at McClean. New circuits and significantly modified circuits and the mill will undergo commissioning and start-up activities.

Commissioning and start-up activities will confirm components and systems are operating as designed to meet performance specifications, confirm safe operation, provide knowledge and competency training for operators, and manage potential risks with conventional safety and radiation exposures.

AREVA has outlined the detailed commissioning activities and relevant safety and control systems in the document "Commissioning and Start-up Plan for the Receipt and Processing of High Grade Ore" submitted to CNSC staff in June of this year. This document has also been summarized in AREVA's Commission Member Document submitted to the Commission in August.

The current production plan includes the commencement of milling Cigar Lake ore in 2013. The receipt of Cigar Lake ore will involve the gradual

increase in production which will require the mill to be operated on a week on, week off basis until we reach continuous operation by late 2014 or early 2015.

The mill at McClean Lake was designed and constructed to process uranium ores at grades ranging from less than 1 percent to 30 percent. The mill uses grinding, leaching, and a solvent extraction recovery process to extract and recover uranium product from the ore.

Following a one-day hearing in 2005, AREVA received approval to construct and expand the mill to increase production capacity from 8 million pounds to 13 million pounds per year.

As shown on this slide in red, the expansion included the construction of an ore slurry receiving circuit to accommodate the processing of higher grade ore slurry from Cigar Lake mine.

The Commission, in providing this authorization, required AREVA to make a further licence amendment request to operate the expansion and receive higher grade ore slurry.

Since construction of the expansion was completed in 2007, the mill has been used for processing lower grade ores. Consequently, some of the circuits as -
- such as the ore slurry receiving circuit, have never

been used.

The McClean Lake operation has received several licence renewals and amendments since the original licence was granted in 1994. The current McClean Lake operating licence was granted on July 1st, 2009 for an 8-year term.

AREVA submitted its application to the CNSC Secretariat, requesting a licence amendment to receive and process high grade ore slurry from the McArthur River mine at the McClean Lake Operation, in November, 2009. In January, 2011, AREVA submitted a supplemental amendment application to the CNSC requesting a licence amendment to include the operation of the high grade ore circuits, increasing the maximum annual production limit from 8 million to 13 million pounds and processing of McArthur River ore.

As stated previously, the mill has been used to process lower grade ores since the completion of the mill expansion in 2007. As a result, AREVA has not previously requested approval to process higher grade ore in the mill.

With the Cigar Lake mine scheduled to commence first production in 2013, AREVA is requesting authorization to operate the JEB mill as a high grade facility, which includes the processing of high grade ore

and use of high grade ore slurry receiving circuit.

AREVA is also requesting to increase the current maximum annual production limit from 8 million pounds to 13 million pounds per year.

The remaining licence requests relate to the receipt and processing of uranium ore slurry from the McArthur River mine.

When facing the depletion of ore at the McClean Lake operation and the resulting requirement to shut down the JEB mill, AREVA and its partners in the McClean Lake, Cigar Lake and McArthur River joint ventures, examined the possibility of diverting a portion of the ore slurry from McArthur River mine to McClean Lake to maintain the operation of the JEB mill.

In November 2009, AREVA applied to the CNSC for a licence amendment to receive and process McArthur River ore concurrent with the project description. Although no physical modifications to the JEB mill were required to receive and process McArthur River ore, the project triggered an environmental assessment pursuant to the *Canadian Environmental Assessment Act*.

Following the technical review and extensive aboriginal and public information programs, the environmental assessment was approved by the CNSC on April 19th, 2012, allowing the approval process to proceed to

licensing.

With the decision to shut down the JEB mill in 2010, the McArthur River ore could no longer be used to maintain operation. However, if approved, the ore could be used to assist in the commissioning and restart of the JEB mill prior to the receipt of the ore from Cigar Lake mine.

CNSC has implemented a process for licence reform to improve clarity and consistency while maintaining adequate regulatory oversight. Licence reform has been introduced for CNSC regulated facilities, including nuclear power plants, nuclear fuel fabrication plants, and uranium refinery and conversion facilities.

The Licence Conditions Handbook for the McClean Lake operation outlines the process for authorizing the changes that are within the licensing basis.

The Licence Conditions Handbook also provides provisions for delegation of authority and conflict resolution.

The Licence Conditions Handbook will be used as a key document that identifies criteria to be used by the CNSC Staff to assess compliance with the licence conditions listed in uranium mine operating licence. AREVA is in support of a CNSC Staff's initiative for the

new licence format.

To support these licence amendment requests being heard here today AREVA has provided a detailed overview of all the safety and control areas in its CMD submission. I will now briefly touch on some of the key safety and control areas as they relate to our licence requests.

The mill was designed and constructed with the ability to process run-of-mine ore and uranium ore slurry at grades from less than one percent to as high as 30 percent.

Following the expansion the mill can achieve an annual production capacity of 13 million pounds per year. Implementation of optimization and improvements are controlled using the design control process which ensures the design function is performing adequately.

The 2007 mill expansion was designed, constructed and will be commissioned in accordance with the design control process.

Licensed activities are performed as prescribed in the integrated quality management system, commonly referred to IQMS, which is applicable to all employees, contractors and visitors.

The commissioning and start-up plan for the receipt of high grade ore is a controlled document

specifically developed to facilitate the process of commissioning and start-up of the mill.

In addition, a suite of procedural documents has been developed for the ore slurry receiving circuit and for the transportation in receipt of high grade ore slurries.

Internal audits of the IQMS and supporting documents are conducted to measure effectiveness and ensure compliance.

Human performance is managed in accordance with the IQMS programs and systematic approach to training systems. In preparation for the restart of milling in 2013 AREVA has started the process of rehiring and training staff. Approximately 125 employees will be hired in 2012 and 2013 with specific focus on the mill operations' group.

To prepare for the restart of the JEB mill, AREVA has many training requirements in place to accommodate new hires to the McClean Lake operation and to meet specific operating objectives.

Particular focus has been placed on the mill operations, advanced radiation protection and emergency response training.

The mill was constructed with engineered features in place to control worker radiation doses from

processing of high grade ore. These features isolate high radiation sources through the use of physical barriers, shielding, separation, containment and localized ventilation.

During the ramp up of production enhanced monitoring will take place as described within the radiation performance confirmation plan to analyze radiometric conditions, resultant worker doses and plan for optimization of radiation protection.

The mill was designed to meet worker dose objectives with the maximum dose predicted to be less than 14 millisieverts per year with an average dose predicted to be less than 3.5 millisieverts per year.

Although worker doses will be higher than previously observed they will remain below the annualized regulatory dose limit of 20 millisieverts per year.

Although the mill is currently constructed to achieve an annual production capacity of 13 million pounds McClean Lake operation has been environmentally assessed to a production capacity of 27 million pounds per year.

The environmental assessments include the processing of ore from multiple sources, which include the Cigar Lake mine and McArthur River mines. The environmental assessment for the receipt and processing of

the McArthur River ore received approval in April this year. Ore amenability studies have been performed to ensure compatibility to mill processes and to determine optimal operating parameters.

Technical information documents have been prepared and submitted to the CNSC staff. These documents confirm the predictions of environmental performance of the McClean Lake operation and include the activities encompassed in the proposed licensing amendment activities.

They are arranged by technical subject area and provide a comprehensive presentation of baseline information, operational performance data and predictive modelling for this site.

A project-specific aboriginal and public information program was prepared for these licensing activities. Between 2009 and 2012 over 80 meetings were held with northern Saskatchewan residents, municipal leaders, Métis local and regional presidents and chief and councillors of First Nation bands.

Summary reports on our engagement activities were prepared and provided to the CNSC Staff on a periodic basis, and a concluding report for the entire period was also prepared and submitted to the CNSC Staff. It is our understanding that this report was made

available to the Commission in preparation for this hearing.

During engagement activities AREVA did not receive any substantive comments identifying the potential to adversely affect aboriginal or treaty rights.

In summary, AREVA submits that it is a qualified operator and it conducts its operations in a manner consistent with the requirements of the *Nuclear Safety Control Act*, and that the necessary measures are in place to ensure AREVA continues to conduct its operations, including the activities requested in this licence amendment in a manner that limits the risks to the health and safety of workers and the public, limits the risks to the environment, limits the risks to national security, and is consistent with Canada's international obligations.

Myself and other representatives of AREVA are available to answer the Commission's questions. Thank you.

THE CHAIRMAN: Thank you.

Before moving to the questions I'd like to hear a presentation from CNSC Staff as outlined in CMD 12-H9, and I understand that Mr. Elder will make this presentation. You may proceed.

12-H9

**Oral presentation by
CNSC Staff**

MR. ELDER: Thank you. Good morning, Mr. Chairman, Members and Commission. And I'm Peter Elder, Director General of Nuclear Cycle and Facilities Regulation. With me now are Mr. Jean LeClair, Director of our uranium mines, mill division, and Ms. Cherry Gunning, our Senior Project Officer within that division. We also have a number of our CNSC licensing team with us as well.

As been noted AREVA has requested that the McClean Lake uranium mine and mill operating licence be amended to authorize processing in high-grade ore. I will now turn the presentation over to Mr. LeClair.

MR. LECLAIR: Good morning, Mr. President and Members of the Commission. I'm Jean LeClair, Director of the uranium mines and mills division.

Today you'll be considering a request for licence amendment for McClean operation. As part of this request CNSC Staff are proposing a new licence format to align with the licence, and licence condition handbooks that have been previously implemented by the directorate of Nuclear Cycle Facilities regulations and as well as with power reactors.

I believe the proposed licence and Licence

Conditions Handbook provides increased clarity in regulatory expectations and ensures proper regulatory oversight and controls on the licensee's operations.

This is the first operating mine and mill to be with a licence being reformed. In 2013 as part of applications for licence renewals we'll be proposing reform licences and the associated Licence Conditions Handbooks for the uranium mines and mills operated by Cameco Corporation, that include Cigar Lake, McArthur River, Rabbit Lake and Key Lake.

I will now ask Cherry Gunning to present CNSC Staff's assessment and recommendations on the proposed licence amendment for the McClean Lake operation.

MS. GUNNING: Good morning, Mr. Chairman and Commission members. My name is Cherry Gunning and I'm the Project Officer responsible for managing the licence and compliance activities associated with the regulation of AREVA's McClean Lake operation.

CNSC Staff are here to recommend that the Commission amend the McClean Lake uranium mine operating licence to authorize the processing of high grade uranium ore from the Cigar Lake mine, the operation of the new ore slurry receiving circuit, the increase of the annual mill production limit from 8 to 13 million pounds of uranium concentrate, and the processing of high-grade ore from the

McArthur River mine.

We also recommend the introduction of a new licence format accompanied by a Licence Conditions Handbook.

I'll begin my presentation by providing an overview of the McClean Lake operation and a brief history of the operation of the mill and associated waste management facilities.

The mill at the McClean Lake operation is referred to as the JEB mill. The overview will be followed by a summary of AREVA's performance at McClean Lake in 2011. Then I will discuss the assessment CNSC staff carried out related to the restart of the JEB mill and the result -- and the requested licence amendments. Finally, I will present CNSC staff's conclusions and recommendations.

This map shows the location of the McClean Lake operation in northern Saskatchewan. It is located 750 kilometres north of Saskatoon. The closest communities to McClean Lake are the northern settlement of Wollaston Lake and the Hatchet Lake First Nation located together 50 kilometres to the southeast on the far shore of Wollaston Lake. I would also point out the location of the sources of high-grade ore slurry, the Cigar Lake and McArthur River mines. This map shows the area governed by

the McClean Lake uranium mine operating licence. The JEB area is located at the top right. This area includes the JEB mill and the JEB tailings management facility. The JEB tailings management facility was engineered from the JEB open-pit mine after all the ore had been extracted. The sequential open-pit mining of five ore bodies at McClean Lake began in 1994 and was completed in 2008. The remaining Sue D, Caribou and McClean Lake ore bodies are located in the bottom corner here in the sous-mining area. The proposed midwest mining area is located 15 kilometres to the west on the left side of the map. The midwest and McClean Lake sites are connected by provincial highway 905, but a more direct road is planned, shown by the dotted line. And the road from the Cigar Lake mine is shown in black at the lower left-hand corner. Ore slurry will be transported over approximately 10 kilometres of provincial highway 905.

The JEB mill was constructed with radiation protection features that would allow it to process high-grade ore slurry from the Cigar Lake operation. The JEB mill began to produce uranium concentrate in June 1999, and operated continuously until July 2010. Uranium concentrate is also referred to as yellow cake or U_3O_8 . Initially, the mill was authorized to produce six million pounds of uranium concentrate per year. The licence was

amended in 2001 to increase this rate to eight million pounds per year. In 2005, the McClean Lake licence was amended to authorize the construction of the ore slurry receiving circuit. Construction was completed, but due to development problems at the Cigar Lake, commissioning using high-grade ore has not been carried out. By July 2010, most of the ore mined at McClean Lake had been processed through the mill and the mill was shut down.

Once the mill ceased production, water was used to flush the slurry forward from one circuit to the next. As the circuits were cleared of radioactive solids and solutions, the equipment was taken out of service and cleaned to minimize radiation sources. CNSC staff reviewed the shutdown plan and inspected the shutdown mill circuits to verify that they were in a safe state and that the modified control measures were effective. A core contingent of AREVA staff continues to maintain facility critical systems and monitoring and inspection programs. During the temporary shutdown, maintenance and modifications are being made to the existing mill circuits to prepare the JEB mill for the processing of high-grade ore. It is now expected that the Cigar Lake mine will begin to supply the JEB mill with ore slurry in September 2013.

CNSC staff conduct compliance verification

activities to monitor AREVA's compliance with their licensing basis. AREVA has implemented programs for all 14 safety and control areas. Since the licence was renewed in 2009, AREVA has shown continuous improvement in the design and implementation of these programs. By the end of 2011, CNSC staff rated all safety control areas a "satisfactory". In 2011, there were no exceedances of radiation or environmental protection action levels. Worker radiation doses decreased from the previous year. There were six environmental spills, all spilled materials were recovered and corrective and preventative actions implemented. The final treated effluent met discharge limits and there were no lost time accidents. CNSC staff conducted an assessment of AREVA's plans to restart the JEB mill and the requested licence amendments. The following topics were considered in the assessment: the start-up and commissioning plan, the training of new and returning workers, the optimization of radiation protection, the increase of the annual uranium production rate and the processing of McArthur River ore.

This photo shows the ore slurry receiving facility at McClean Lake. AREVA's phased approach to starting the mill and commissioning new or modified circuits will be to complete the following steps: verify that all circuits are re-assembled and operating as per

design, operate equipment with water to check for leaks, process low-grade ore through all mill circuits, review and revise applicable documentation and operating guidelines as required, and transition from processing low-grade ore to processing high-grade ore. As the mill circuits are restarted and commissioned, CNSC staff will conduct inspections and review AREVA's commissioning results to verify that the mill is operating safely.

During the mill shutdown, AREVA has retained experienced mill operations employees. All mill operators will undergo refresher training with the mill trainer and mill operations supervisor to ensure competency prior to operating a circuit alone. During mill start-up, the most experienced operators will be in charge of the more complex mill circuits. New operators will be placed with senior operators in less complex mill circuits for peer training. They will also be trained by mill trainers in accordance with the mill operator training program. The phased approach that will be used to start the mill will provide returning and new operators with operating experience for all mill circuits prior to the processing of high-grade ore. AREVA plans to send mill operations personnel to Cameco's Key Lake operation for practical training in the operation of the ore slurry receiving circuit prior to commissioning the circuit at

McClellan Lake. All employees will receive radiation protection training to ensure that they understand the radiation risks at McClellan Lake and how they can ensure that the doses they receive are as low as reasonably achievable.

CNSC staff were satisfied that AREVA has developed a plan to ensure that returning and new mill operators will be qualified to safely operate the JEB mill. CNSC staff will verify in the early stages of mill start-up that implementation of the training program meets all of CNSC requirements. It is CNSC staff's opinion that the McClellan Lake operations radiation protection program will ensure that radiation doses to workers are below radiation dose limits and are as low as reasonably achievable. The average and maximum radiation doses to mill workers during 2008 were 1 in 4.5 millisieverts. It is predicted that the processing of high-grade ore could increase the average and maximum doses to 3.4 and 13.4 millisieverts. These values remain below the radiation limits for nuclear energy workers of 50 millisieverts per year and 100 millisieverts over five years. Processing high-grade ore will not increase the radiation dose to members of the public.

The mill start-up plan is to transition from processing low- to high-grade ore. As the ore grade

is increased, radiation monitoring will be carried out to verify that radiation levels and worker doses are within an expected range of values. Areas and work activities exceeding expected exposure rates and worker doses will be investigated and necessary corrective and preventative actions will be implemented. As the mill circuits begin to process high-grade ore, CNSC staff will conduct inspections and review AREVA's analyses of circuit-by-circuit radio-metric conditions, results and personal doses and plans for optimization of radiation protection to verify that the radiation doses to workers are as low as reasonably achievable.

The current authorized annual production limited for the JEB mill is eight million pounds of uranium concentrate. This production rate was set relative to the volume of low-grade ore that the mill can process.

AREVA estimates that by processing high-grade ore, the mill, in its current configuration, will be able to produce up to 13 million pounds of concentrate per year. They also estimate that there is sufficient capacity in the JEB tailings management facility to store the tailings generated by a production rate of up to 13 million pounds until 2019.

Environmental assessments that have been

completed for the McClean Lake operation have concluded that there will be no significant adverse effect from an annual production rate of up to 27 million pounds of concentrate.

CNSC staff are satisfied that the JEB mill could sustain an annual production rate of 13 million pounds of uranium concentrate without causing significant adverse environmental effects and that the increased production rate will not increase the risk to worker health and safety.

AREVA is requesting authorization to process high-grade ore slurry from the McArthur River Mine. AREVA may use McArthur River ore to commission the ore slurry receiving circuit and to prepare for the processing of Cigar Lake ore. McArthur River ore may also be used as an alternate ore source to ensure the stable operation of the JEB mill during the ramp up of mining at Cigar Lake.

AREVA conducted tests to verify that the JEB mill could process McArthur River ore. JEB mill process conditions were simulated to determine the processing parameters for the tailings preparation and wastewater treatment circuits. The test work confirmed that with minor modifications in the amount of treatment chemicals, the tailings preparation and wastewater

treatment processes could manage all contaminants of potential concern.

CNSC staff are satisfied that the McArthur River ore can be processed at McClean Lake to meet environmental protection requirements.

CNSC staff will continue to review environmental monitoring results to verify that the concentrations of contaminants of potential concern in the pore water from the JEB tailings management facility and in the effluent discharged from the McClean Lake remain below effluent limits and are as low as reasonably achievable.

During the environmental assessment of the processing of McArthur River ore at the McClean Lake operation that was carried out between November 2010 and April 2012, AREVA organized meetings with the impacted communities and stakeholders to provide information about the requested licence amendment and to identify public concerns that should be addressed during the environmental assessment and licensing process.

Once the environmental assessment process was completed, CNSC staff sent a letter to each of the potentially interested First Nation and Métis communities advising of the approval of the environmental assessment and notifying them that AREVA's application for the

licence amendment would be heard by the Commission at a public hearing in October 2012.

In addition, at the beginning of the licence amendment public review period in August, copies of CNSC staff's and AREVA's Commission Member Documents were sent to the potentially interested communities and organizations with advice on how to participate in the hearing process.

The Commission received no requests for interventions.

Finally, at the beginning of this month, the CNSC staff participated in the annual AREVA Cameco visit to the communities of Fond-du-Lac, Stony Rapids, Black Lake and Wollaston Lake. These are the communities located closest to the McClean Lake operation and these are annual visits that occur not related to this licensing action, but they're annual visits to the communities to give them an update on what's happening in the mining -- in uranium mining.

So CNSC staff made a presentation listing the licensing actions that will be occurring in the next year and encouraged community members to participate in the public hearing process.

We also indicated that members of the public that have concerns about health and safety of

workers and the public and protection of the environment at uranium mines and mills are welcome to contact CNSC project officers directly or through environment quality committee members at any time.

In each community, CNSC staff were available in the afternoon and evenings to discuss individual concerns. No concerns were raised about the proposed licence amendments.

CNSC staff conclude that AREVA is qualified to carry on the activities authorized by the amended licence, AREVA will, in carrying out those activities, make adequate provision for protection of the environment and the health and safety of workers and the public, and that the required environmental assessments under the *Canadian Environmental Assessments Act* have been completed.

CNSC staff recommend that the Commission accept the conclusions of CNSC staff and issue the amended uranium mine operating licence.

CNSC staff are available now to respond to questions.

THE CHAIRMAN: Thank you.

I guess I will start -- open the floor for questioning and we'll start with Ms. Velshi.

MEMBER VELSHI: Thank you, Mr. President.

My first one is for AREVA on Slide 16 please. I just want to get confirmation on the regulatory limit that you mention in there of 20 milliSieverts per year. It's 50, right?

MR. CORMAN: Jim Corman for the record.

50 milliSieverts per year is correct for a one-year dose. Twenty (20) milliSieverts we use as a conservative estimate of the 100 milliSieverts averaged over five years. We set that as an internal regulatory limit. And the AREVA objective is 16 milliSieverts to be less than that.

MEMBER VELSHI: Okay. So it's not a regulatory limit. It's your own internal administrative limit then?

MR. CORMAN: That's correct.

MR. ELDER: I'd like to clarify. Peter Elder for the record.

We have two limits. There is a 50 milliSieverts annual limit and then there is a 100 milliSieverts over five years.

So when you're doing the comparison of a long-term projection, you should use the -- what will you -- are you going to go over that 20 milliSieverts per year on a continual basis.

So in this comparison it is -- they sort of

looked and they said you better make sure your mill is going to operate that you're not giving anybody 100 over five years as well.

MEMBER VELSHI: I hear you.

Question for AREVA on commissioning, and I just want clarification that in the previous commissioning process, no higher-grade ore was used, and I thought I heard -- I don't know whether it was staff or you folks saying that because there were technical issues. Can you please confirm that?

MR. CORMAN: Jim Corman for the record.

No technical issues that limited the commissioning of the plant or operation of the plant at higher-grade ores. We have successfully run the McClean Lake operation with grades averaging on an annual basis up to 3 percent. That was just limited by the grade of ore that we mined and could feed to the plant.

So there were no technical challenges observed with the higher-grade ores.

MEMBER VELSHI: Thank you. And --

THE CHAIRMAN: Sorry, just for clarification again, so McClean mine itself was 3 percent. What's Cigar and what's McArthur River?

MR. CORMAN: Jim Corman for the record.

The forecasted average grade for the Cigar

Lake mine is between 18 and 20 percent U308. And it's a similar grade that's being observed right now McArthur River mine.

THE CHAIRMAN: Thank you.

MEMBER VELSHI: So when you restart the commissioning, is there any credit taken for the previous commissioning or do you really start from square one and go through all the stats all over again?

MR. CORMAN: Jim Corman for the record.

Certainly the majority of the plant has been operated and -- commissioned initially and operated for 10 years.

So certainly we will not have to go through the full re-commissioning of the circuits that have already been operated. As staff has mentioned the plant, when it was shut down in 2010, was cleaned out. So we have to restart the majority of the circuits, and that will be a process where we go through water, and then waste rock, and then low grade ore, and ultimately ramp up the feed grade to the plant.

So that part of the process for the existing plant, the parts that we have operated before is pretty straightforward. There are some components to the expanded plant that have never operated in ore, so those will go back right to the original commissioning

requirements, that look at operability and start-up again with water through those circuits and restart right from zero on the circuits that hadn't been operated.

It's a very small percentage of the overall plant that hasn't actually had ore through it and been commissioned.

MEMBER VELSHI: Thank you. And my last question is for Staff. In the CMD H9 on page 25 you talk about deficiencies in AREVA's compliance with RDGD 99.3. Can you elaborate on what those deficiencies are and then perhaps AREVA can discuss how they were planning on closing any gaps.

MS. GUNNING: Cherry Gunning for the record. AREVA is transitioning from our old regulatory guide on ---

THE CHAIRMAN: So what page, it's page what?

MEMBER VELSHI: It's on page 20 ---

THE CHAIRMAN: Five.

MEMBER VELSHI: Sorry, page 25 CMD 12-H9 second paragraph.

MS. GUNNING: So RDGD 99.3 is a new document. And AREVA is transitioning from their current public information program to meet the requirements, additional requirements of RDGD 99.3.

So the actual deficiencies they need to identify -- well, actually I think we should pass this back. So we're going to have our reviewer give you the exact.

MR. ELDER: So we'll ask that Adelle Ferguson who does the reviews on this one, give you the details on this one. Again, this is a relatively new standard and it's really making sure that their documentation does reflect all elements of that standard.

MS. FERGUSON: Adelle Ferguson for the record.

In our review of AREVA's public information program we did note that they are currently transitioning from the requirements of the regulatory guide G217 licensee information programs, public information programs, to the new RD99.3 which is the public information and disclosure program.

Their deficiencies that we noted were mostly around describing community and public views, opinions and concerns in relation to the licensed activities, and the means utilized to obtain them.

We would request that in the future they expand on their existing public disclosure protocol by consulting the public stakeholders and interest groups with a focus on the local community to determine what

types of information would be of public interest, which is in line with RD99.3.

Also, we would like that they make their public disclosure protocol available to the public, and that they send any revisions to the CNSC that they make to their public disclosure protocol, indicating the feedback that they receive from members of the public, the changes to the protocol and the reasons for changing it.

Also we would request that they post their protocol on their website.

We did receive correspondence from AREVA stating that they intend to update their program during the next year, and CNSC Staff will work with the licensing team to monitor AREVA's compliance with the requirements of RDGD99.3.

THE CHAIRMAN: Thank you.

MR. LeCLAIR: I'd just like to maybe just add just to make sure for the record that we're satisfied with the public information program. We do not view these -- these are areas for improvement that will strengthen their public information programs.

I believe it's important to note in fact the public information programs for the uranium mines and mills from both Cameco and AREVA are quite extensive, quite elaborate.

As Cherry Gunning already mentioned, last week we were participating in northern tours. These are done every year where both licensees actually go to all the communities in northern Saskatchewan to explain the activities that are going on at their facilities to share with them the performance within the facilities.

CNSC Staff participates in those northern tours every year. So Cherry was there last week. There's currently two staff in the west side of the province from UMM, from my division, and we're basically going to all these northern communities during the whole month of October.

So I just want to reassure the Commission that the public information program for AREVA is quite extensive and quite effective. However, as noted there are areas where they need to improve and strengthen their existing program.

THE CHAIRMAN: Dr. McDill.

MEMBER MCDILL: Thank you. My first question is from Staff report page 10 on training plan for returning and new mill operators. I guess it's actually directed at both parties.

There's a statement concerning junior mill operators to be hired from pool candidates who completed the mill operating training program. Roughly how many

people are in that pool?

MR. CORMAN: Jim Corman for the record.

We have an existing crew of well-experienced operators. During the shutdown we kept 27 experienced operators on site for the duration of the shutdown. So we have an excellent core group to build on.

We are currently -- we have ran through a couple mill operator training programs so far in 2012 and we'll continue programs like that next year. We typically bring in a group of 12 to 14 trainees and run them through five to six weeks, shift weeks on site.

So they work actually seven days on site as part of these training programs for up to six shifts, where we go through the general orientation. We give the operators the training programs for safety radiation protection and orientation into the mill site.

So we typically bring in about 12 at a time from the local communities. These are northern operators that we employ. We bring them in and run them through this six-week training circuit and select from that group the best candidates to become operators for our plant going forward.

So we've been very happy with the success that we've had with these intensive training programs. And we get good quality candidate to work with moving

forward to match up with one of our experienced operators to move forward with their workplace training.

MEMBER McDILL: I think the mentoring is excellent. What happens to the unsuccessful candidates? Can they come back? Can they retrain? Can they revisit, do they go to other mills?

MR. CORMAN: Jim Corman for the record. Certainly the unsuccessful candidates, there are other opportunities within our operations for people to work in other areas. Maybe not in the mill, maybe on our services team with equipment operation.

So there's opportunities for other candidates that decide that mill operation maybe isn't for them, or we decide that that's the case as well.

Some candidates may show an inclination more on the mechanical side. So actually they may come in as trainees for mill operations and we might move them into an apprenticeship program to become tradesmen for the plant as well.

So there's ample opportunities. We do an excellent job of selecting the candidates so that we bring people into these training programs that have the best chance for success.

So there's a significant interview and screening process before we even bring the trainees to

site. We're quite confident that when they get to site that that'll be successful, and we support them to that extent.

MEMBER McDILL: You know, I have to ask the question: Are there any girls, women?

MR. CORMAN: Our recent group of 12 trainees, I think -- I think probably just less than half of them are female. Half of the 12 are female trainees.

MEMBER McDILL: Thank you.

Staff, do you have any comment on those questions?

MR. LECLAIR: Perhaps just a comment on the training program.

The important thing is -- with the mill shut down, of course, there's not a lot of training necessarily going on. It's in a bit of a stable situation.

So assessing the training program, it's one thing to look at it when there's not a lot going on. It's certainly much more important when activities start happening, which is why as part of the compliance program, we are planning a review of the training program early in 2013 with our training specialist to ensure that the training program is in fact meeting the requirements.

It's early enough in the operation before

they start processing high-grade ore. It's earlier on in the process, so we have an opportunity, that if we identify any deficiencies in the program, there are actions can be taken to correct them before they move on to the actual processing of the high-grade ore when we expect the risks to become greater.

MEMBER MCDILL: Thank you.

One more question ---

THE CHAIRMAN: Can I piggyback on that? Still on the same page, can you talk a little bit about who are the Saskatchewan Institute of Indian Technology? Is that a separate institute? Is it part of a university? And is it a popular -- is it an attractive program?

MR. CORMAN: Jim Corman, for the record.

It's a -- the group itself, the Saskatchewan Institute of Indian Technology, I think is a learning centre that is partially sponsored, I would think provincially and on a federal level, for training opportunity for Aboriginal people in Saskatchewan.

THE CHAIRMAN: Staff? Anybody knows? Is it available to everybody, not only to AREVA, and is it a popular program? It's the first time I hear about it.

MS. GUNNING: I don't know that, but I'd like to correct an error in the CMD. It's the

Saskatchewan Indian Institute of Technology.

THE CHAIRMAN: Okay.

MR. LECLAIR: Perhaps, Mr. President, what we can look at doing is providing further information to the Commission, either after the hearing or at another upcoming hearing. Unfortunately, we don't have the details to answer your question.

THE CHAIRMAN: Okay. I'm really interested in knowing a little bit about the program, and is it -- I guess what I'm trying to determine ---

MR. LECLAIR: I think ---

THE CHAIRMAN: --- is whether you find a difficult to find people interested, I mean, recruitment. Do you have any problem finding people?

MR. CORMAN: Jim Corman, for the record.

Certainly there's challenges in finding people from the northern communities which are closest to our mine site for the technical skills, or the higher -- higher level of education is not available in most of those communities, so it is a challenge that way, for operators and for apprenticeship programs.

We are more successful in finding good candidates from the northern communities, but unfortunately, for our trades positions and for our technical positions, we often have to go outside the

northern communities for hiring of those positions. We are successful in finding those candidates, certainly, in the rest of the province, but our first preference is to hire people from the local communities. The education level that exists in the north is the biggest challenge to finding and filling the more technical roles with northern people.

THE CHAIRMAN: Thank you.

Dr. McDill?

MEMBER MCDILL: My next question is, on page 17, the top of the page:

"Worker doses will be ALARA? Social and economic factors taken into account."

That's kind of an interesting hanging bit in the sentence there. What do you mean, "Social and economic factors taken into account?"

MR. ELDER: Peter Elder, for the record.

That's actually in the definition of ALARA; it's always been there. We just -- occasionally, just for -- I guess it is to point out that it's not at all costs.

As you do a cost benefit analysis, you are recognizing -- in this case, we want to stress it, is that you are dealing with a different hazard than you

were dealing with before and that it may not be possible to get the same doses you were getting with low-grade ore that you would with high-grade ore. But the definition of the socioeconomic factors has always been in the definition of ALARA.

MEMBER MCDILL: I was wondering why it was here, that's all, as opposed to where it used to be. I was aware that it was there, but why was it then brought forward particularly in this case.

The last quick question, on the map there is -- just south of Midwest site, there's a grey, brownish, roughly toothbrush-shaped feature. Is that a landing strip? It's not identified, but it is called "Points North Landing," so I'm assuming by scale it is a landing strip?

MR. LECLAIR: I just got an affirmative nod from the other table.

MR. ELDER: Correct.

MEMBER MCDILL: Thank you.

MR. ELDER: For the record, yes, it is a landing strip, yes.

THE CHAIRMAN: Okay. Mr. Harvey?

MEMBER HARVEY: Merci, Monsieur le Président.

On page 12 of the staff presentation,

talking about radiation doses will increase, in fact, we see the figure there that the average annual dose will be 3.4 times higher, and the maximum annual, almost three times.

I'm trying to conciliate that with the ALARA principle and the comment about -- on page 13, of the staff:

"Since the staff will review regularly radiation level worker doses and, where required, plans to reduce radiation doses levels..."

It's like we do something and then we will see later if we can reduce it. So the increase of three, I know, I see it's lower than the limit, but it's something.

And you mentioned that you will see in the future if there is any possibility to reduce it. It is what you say in there? Or what has been done to reduce it, the maximum possible?

I could, as well, ask the question to AREVA, and then go to the staff.

MR. ELDER: Peter Elder, for the record.

I'll start with, is what we have right now, and this is what the requirement is to do, is they do modelling of what is the potential increase. So when

you see the sort of potential increase, but then you ask the question, the next question. So right now we have the modelling assumptions that, yes, it can get higher.

And then you asked the question, "Okay, what are you going to do to try to limit that increase?" And I think this is where AREVA should be saying, "This is what we're doing right now to try to limit them."

So we're saying that this is a two-step. You come in and do a theoretical calculation of how high can it be, based on a number of assumptions, and then as you get into actually the work practices, you have to continually review them to see if there's opportunities to reduce.

MEMBER HARVEY: I'd like to have a comment from AREVA, because I thought that saying that, you just admit that that will be three times and that's it, that will be that, so it's not so good for the workers.

MR. CORMAN: Jim Corman, for the record.

Certainly our feed grades in the past have been up to 3 percent U_3O_8 . Ore grades going forward into the future will be substantially higher, up to 20 percent U_3O_8 , so certainly more than a three-time increase over what we've experienced to date.

I'll ask Mr. Huffman to expand on how we modelled that and our protective procedures that we'll

put in place to manage out exposures to as low as reasonably achievable.

MR. HUFFMAN: Dale Huffman, for the record.

I think what you're seeing in the -- the changes in doses of the past and the predicted doses of the future, reflects that we've had the benefit of operating a mill that has been designed for very high-grade ores, while processing much lesser ore grades.

So as Jim Corman mentioned, we have processed through the mill up to -- ore grades up to about 3 percent. We've collected a lot of knowledge and experience along the way that enable us to project the doses to operators in the future.

We also at the initial commissioning of the mill went through an exercise of validating the effectiveness of the radiation design features so that we are confident that they will afford the protection that we've designed.

Now, at the next start-up of the mill, we've also a plan in place that we refer to as the Radiation Performance Confirmation Plan which will again validate that the radiation doses are as we predict and will look for opportunities to optimize.

We've designed the mill with dose

constraints in place and our task, during commissioning, will be to validate our predictions and optimize below that constraint.

MEMBER HARVEY: Could it be more than that? This is a projection but if we see the grade from 3 to 15 or 18, it's quite a difference. So could those figures be higher than they -- than we see here?

MR. HUFFMAN: Dale Huffman, for the record. We designed the mill to achieve certain exposure rate objectives. So, for example, there are not areas in the mill that will exceed 5 microSieverts per hour when we're producing at 20 percent uranium, and we validated the effectiveness of those features. So with these workplace nominal exposure rates achieved, we don't anticipate surprises of that nature.

It -- where we are -- where we do have concern is where a worker's dose is in their own hands. Where they do exposure or high exposure activities, they need to be properly trained to conduct those activities. And those activities will be closely managed.

MEMBER HARVEY: What can be done to reduce the exposure? If you find something higher than that, what can be done? This is the equipment, the workers and ---

MR. HUFFMAN: Dale Huffman, for the record.

So as part of the radiation performance confirmation plan, there will be a circuit by circuit evaluation of the radiometric levels in the circuit, as well as the activities that are conducted in the circuit.

We have some experience in doing this in the past. We've looked at worker activities to evaluate what can be done to lower routine doses. So what can be done is improved operator procedures and we also have the ability to apply increased shielding if needed, increased ventilation if needed. So there ---

THE CHAIRMAN: I like to put the things in context. This is hypothetical -- all hypothetical but there are two operating, Cigar Lake and McArthur Lake, operating now.

What's their dosage to staff?

MR. LECLAIR: I'd like to perhaps answer that if I could because that's exactly where I wanted to come from.

To provide some context, those upper bound numbers are conservative estimates and have been provided by AREVA that we've reviewed. Those numbers are not excessively high when compared to the maximum numbers that we see at Key Lake mill that currently processes McArthur River ore, it's processing high grade ore.

I think what's very important to note here

is that the McClean Lake Mill is designed with a number of robust features that we don't even see at the Key Lake Mill that's currently operating and keeping radiation doses quite low.

Also, to reassure the Commission, I believe what perhaps a more important thing to say is that CNSC staff -- and certainly we don't expect AREVA to sit on their laurels if the maximum is 14 and they're sitting right at those numbers, consistent with an ALARA principle we'll continue to review and look for opportunities for them to further reduce it through controls -- administrative controls, different measures they can put in place, like we do with any other mine.

But just to reassure the Commission, the numbers that you're seeing here are not -- they certainly are higher than what they've seen as Mr. Huffman has mentioned because they're actually going to be processing much higher grade ores, but they're not in the ranges that are a cause of concern for CNSC staff when compared to other operating mines and mills.

THE CHAIRMAN: We are going to revisit them when we get the annual report, I think tomorrow. There's some comparison with the various mines; correct? So we'll see ---

MR. LECLAIR: That is correct.

THE CHAIRMAN: --- we'll see the actual numbers.

Okay, Mr. Harvey?

MEMBER HARVEY: Oui, one last question. It's about the environment.

In the same line with the increased annual production and the higher grade ore, on page 15 it says: "CNSC staff review environmental monitoring data to verify that changes to the environment are detected and investigated."

So are you forecasting some changes in the environment with the new increase of production and the higher ore grade?

MS. GUNNING: Cherry Gunning, for the record.

No, we're not, but as part our regular compliance program, we review the monitoring data. And if we see any increasing trends then we're discussing that with the licensee right away. So if we do see any changes, we have processes in place to detect that and respond.

MEMBER HARVEY: So you think you won't detect any increase in the environment?

MS. GUNNING: No -- right. No increase in the environment.

MEMBER HARVEY: Merci.

THE CHAIRMAN: Thank you.

Any other questions? Oh, Mr. Tolgyesi, je m'excuse.

MEMBER TOLGYESI: Merci, Monsieur President.

What you are saying -- and this is an AREVA presentation -- you are saying that an environmental assessment was done up to 27,000 pounds of U308. And are there any other regulatory requirements than this environmental assessment to increase the production from 13 to 27 pounds -- 27 million pounds?

MR. CORMAN: Jim Corman, for the record.

The plant has been environmentally assessed to production of up to 27 million pounds per year.

Our forecasted operating production limit levels are going to less than that level in the next licensing period. So we're under the umbrella of what has been environmentally assessed. No further environmental assessments will be required for that production increase.

MEMBER TOLGYESI: There's no environmental assessment but some other, like your production licence is up to 13,000 pounds now?

MR. ELDER: Peter Elder, I'll just clarify. Like we've done on the licence reform, we

would actually think that that production limit is not what should be of -- what should be controlled is, as I said, are you within what we're defining as the licensing basis of the facility, which would not only look at the environmental assessment, how -- you know, what is your environmental case, has -- up to 27,000 -- 27 million tonnes.

What they would have to show to us is that all their other programs, their Radiation Protection Program, their Worker Health and Safety Program, their -- every other program -- the physical design of the plant could also handle that production increase.

So if they could demonstrate that all those programs, as they currently are and have been reviewed, are acceptable, then you could do that production increase.

If any of those need to be significantly modified, we would consider that to be a change in the licensing basis and they would have to come to the Commission for approval.

MEMBER TOLGYESI: So if everything is responding, it should be only a licence amendment or nothing?

MR. ELDER: It wouldn't -- it would be as you're within all the predicted -- in your -- what we

would call the licensing basis, which would -- the safety analysis, which really in this case is the environmental analysis.

If you could demonstrate that all your programs would continue to be satisfactory to protect the environment, they would not need a licence amendment to do a production increase as long as they were within the predicted effects, i.e. that they're not having any other additional effect than they predicted.

From a staff point of view, we would do the same review or we would review it in very much detail to say, have they made their case that there's no change or not. If the conclusion is that there is not change, we would report to you on an annual basis, annual report, that they are still within their licensing basis but are now operating at 14 million pounds rather than 13. If there is a substantive change, we would bring that back to the Commission for a decision because there would be a change in the licensing basis.

THE CHAIRMAN: Let me pose the question slightly differently. In 2012 -- where was it -- when the EA was done, you know, when the EA was done, were there any mitigations that were suggested when the EA was done and now they're coming for their licence, are all those mitigation are in place. So remind me, were there any

constraint in the EA that normally should be followed up in the licencing.

MR. LECLAIR: The EA on the McArthur River ore, 13 million pounds is not -- it was not -- there is no constraints from the EA perspective.

THE CHAIRMAN: I'm not talking about just the increase, I'm talking about the all EA, what did the EA say, remind us what did the EA said that needs to be done during the licensing? I think we have somebody that can remind us of that.

MR. RINKER: Mike Rinker, I'm the director of the environmental risk assessment division. The EA that was conducted initially in the nineties, and there was two or three EAs conducted under the Canadian Environmental Assessment Act in the last 10 years, spoke to mitigation measures that are in place. Those include engineering the tailings in the mill, managing the tailings in the tailings facility with hydrodynamic containment and there's a detailed investigation program on those tailings. There's also a very modern water treatment plant at the McClean Lake mill for the treatment of effluent. Those mitigation measures apply to any ore that go through that facility. So there's no new mitigation measures required.

THE CHAIRMAN: Are you satisfied that this

-- in this amendment, everything that was suggested in the EA, has been executed.

MR. RINKER: Mike Rinker, for the record. Yes, I am satisfied. And I guess that, for some context, by going up to higher production rate is often in response to higher grade ore, not in response to more waste going through the facility. So if you double your grade of ore, you do not necessarily double the amount of rock and waste that's being managed so the mitigation measures are perfectly applicable.

THE CHAIRMAN: Thank you for this qualification. Mr. Tolgyesi.

MEMBER TOLGYESI: That was my next question was saying that when you put through a mill 1 percent grade ore, there are some tailings, you recovery is I don't know how much, 90 something probably. And when you put 20 percent ore, it's much less ore, but the tailings content -- uranium content should -- will be higher.

UNIDENTIFIED SPEAKER: I'll have Jack Richards, our general manager of McClean, respond to that question.

MR. RICHARDS: Jack Richards, for the record. Actually, the converse is true, as your grade is elevated your efficiencies also come up. So in fact on a time by time basis, we would expect less uranium in the

tails and a higher mill recovery than we would with a low-grade ore.

MEMBER TOLGYESI: And you're -- you have a picture here, a slide which was distributed this morning, it's tonnes per hour and uranium grade as it's going up, the tonnes per hour are coming down because of performances circuit. Right now, you're saying that it's 11 tonnes per hour when it's 0.1 percent and it goes down to three when it's 9-10 percent. What you expect your capacity will be -- the tonnes per hour will be at 20 percent? It will be, I don't know, two tonnes, one-and-a-half tonne per hour?

MR. CORMAN: Jim Corman, for the record. The curve that was shown just demonstrates what we're anticipating to use as a plan to start up the plant. So the intent there is in the early part of the operation, we're pushing through a larger tonnage of low-grade or waste material, actually, just so that we can commission the plant with low-grade material. And then we just start scaling back the tonnage throughput down to a low, at the end of year, around three tonnes an hour. And that's commencerative (sic) with the amount of production that we'll be receiving from Cigar Lake at the end of next year. Cigar Lake will not be at full production until likely 2015, 2016. So they'll be feeding us more tonnage

on a daily basis. So our anticipated tonnage throughput on a daily basis when Cigar is up to full operating capacity will be in the order of about five to eight tonnes per hour. Our intent with our ramp-down plan here is to test the plant at low tonnage throughputs so that we can see mechanically if there's any challenges within the plant for moving through those low tonnage per hour drivers.

MEMBER TOLGYESI: Because what you have in your presentation, page 16 and 13, you are talking about capacity, how much production of uranium you will do, it's going up to 23 million pounds, and the sources, but we don't see from where it's coming. What you are saying that it's coming from -- the production is going up, but it's the same sources which means you're supposed to produce -- to receive more feed.

MR. CORMAN: Jim Corman, for the record. We also included in the slides that we presented today as the long-term plan that chose some of the different ore sources that could be feeding the plant. Cigar Lake will produce on a yearly basis at full production around 18 million pounds a year. In addition to that, we have the opportunity to bring additional ores into the plant from our existing McClean Lake operation as was mentioned in our presentation, the underground project or the midwest

project in the future. When we bring on those additional ore sources, certainly it will be more feed to the plant which will increase the tonnage throughput on a daily basis and overall increase the overall yearly capacity that is produced in the plant up to the 27 million pounds has been assessed.

MEMBER TOLGYESI: And when you are talking about radiation exposure, what you are saying that when you compare one to three percent uranium ore grade to say 20 percent, there is an increase in doses. What you are saying that was analyzed -- that was analyzed and extrapolated to include future ore grades of 20 percent. That's in the page 27 of 45. And so could you explain to what extent the ore grade increase from 1 to 3 to 20 percent impacts the maximum average grade and from where you have this extrapolation, this empirical calculated based on other operations.

MR. CORMAN: I'll ask Mr. Huffman to address that question.

MR. HUFFMAN: So the -- Dale Huffman, for the record. The relationship between gamma radiation exposure and ore grade is an empirical relation that we've observed in the operation of the facility. And we've extrapolated exposure rates from that observed relationship to develop doses to workers.

MEMBER TOLGYESI: Staff, do you have any comments on that?

MR. LECLAIR: First, I agree with what Mr. Huffman has said. The other thing I think definitely needs to be mentioned is there's two factors that are coming to play when we look at radiation protection in a situation where the grade is going up. One, of course gamma fields are going to be quite a bit higher when the high-grade ore is going through, but countering that is the amount of material going through is less to achieve the same amount of production. So if you were running at 3 percent grade and you're now running at 20 percent grade, you're producing seven times more uranium for every tonne of ore that you run through the mill. So on a production basis, on a pound per pound basis, the amount of handling of material goes down substantially. Therefore, one would expect that the wear and tear on equipment goes down so the level of maintenance might go down. However, that's countered by the fact that when you actually are doing the maintenance, the radiation fields are quite a bit higher. So you've got those two factors that are coming to bear when you're looking at radiation protection. And if one actually looks back, one example actually of an old mill that actually was operated by AREVA was Cluff Lake mine site where the grades actually

went up by quite a bit and many estimates would have said that the radiation exposures would go up quite substantially, and the end result is that actually the doses went down as a result of one very elaborate radiation protection program, but also the fact that the equipment was not wearing down quite as quickly. The amount of maintenance that needed to be done had gone down. The amount of worker interface with the equipment went down. So while when they're there the exposure rates are higher, they're not there as often.

And so when we go back to basic principles of radiation, time, shielding, distance, you can only do so much on the shielding and the distance, but the time now starts playing a very important factor in the actual radiation protection.

So when we look at RP programs and we look at AREVA's program when they moved towards high-grade ore -- and we've already said that gamma is a major source of radiation -- those are the three things we definitely will be looking at quite closely is the effectiveness of the shielding that they have in place, the time controls, time constraints that are put in place to minimize exposures, and I missed the third one here -- and the distance that's maintained from workers.

So if I use a distance example, some of the

provisions that are built up in the design is ability to flush out valves before a worker goes in so they can maintain the distance while they're actually removing the radiological contaminants before they approach the equipment to maintain it.

So it's those three variables that we're looking at, that we'll continue to look at as part of the programs.

So it'll be -- it'll be certainly something we'll be watching very closely as the grades go up.

The one thing again it's important to note is that the plan is to ramp the grades up gradually over time so there's plenty of opportunities to observe what's going on, see what's happening and apply some corrective measures as the commissioning advances and as the grades begin to climb within the facility.

And if at some point in time the radiation results are showing that we're not satisfied with the kind of performance that they've got, we can always hold back on their activities and do whatever compliance enforcement we need to do to ensure that they take the corrective actions to keep the radiation exposures down.

MEMBER TOLGYESI: Which means that you -- you raise the grade from .1 to 10 percent?

Are these -- your empirical calculations

confirmed by the radiation measurements?

MR. HUFFMAN: Dale Huffman for the record.

Yes that's part of the objectives of the radiation performance confirmation plan is to confirm those empirical relationships, and these relationships were developed in a thorough technical assessment during our initial commissioning and provided to the Commission in those early stages.

MEMBER TOLGYESI: And my last is the transportation. Right now, the McArthur is about what, 900 kilometres by road? You are doing an environmental assessment and a kind of shortcut? I believe that's what one plan is saying, that between McArthur and Cigar Lake one -- number one is how you manage with the Ministry of Transportation and the quality of roads or are there some hold points where the transportation should stop for any reason, whether the quality of roads or so? That's one for this 900-kilometre road.

Another one is where you stand with this McArthur, Cigar Lake shortcut road.

MR. CORMAN: Jim Corman for the record.

The environmental assessment looked at the full road route, which is the 980-kilometre one-way distance between McArthur and the McClean Lake Mill following the existing highway network.

The shortcut road, which is the link between the McArthur River mine site and the Cigar Lake mine site is about 60 kilometres and would significantly reduce the total of distance that that ore would have to travel.

Unfortunately, that road is still several years away from being built and in place. There's some -- some progress with the provincial government to move forward with the construction of that road, but it's -- it's not going to be in place for the duration of what we have assessed.

So we looked at the long route to McClean Lake for the ore slurry transport for McArthur.

It was originally put in place -- we initiated the project when we were looking at alternatives to shutting down the Jeb Mill as a potential source that we could bleed over to the McClean Lake Mill to keep it operating while we were waiting for Cigar Lake ore to arrive.

We looked at that and the timelines didn't work and certainly economically it was very unfavourable to do that, which put us in the position that we had to ultimately make the decision to shut down the Jeb Mill and wait for Cigar Lake to come online.

The intent is still to keep that option

available to us, to bring McArthur River ore over to the Jeb Mill for commissioning if we're not able to receive higher grade ores from Cigar Lake in a timely basis.

We fully anticipate that we'll be able to commission and do our start-up plan as presented in those ramp-up curves using existing material that we have at McClean Lake and some material that we'll be able to get from Cigar Lake next summer.

But we have kept the McArthur River ore slurry transport as a viable option in the event that we can't do that.

MEMBER TOLGYESI: One of the -- we have data about uranium production. I would appreciate if you could have also on processing ore because what you are saying that from 11 tonnes per hour is going down to 3, so it's kind of a significant impact. And staff was explaining that it has an impact on radiation, et cetera.

So it would be nice to have this data and tonnage also, not only on a product as uranium but as a mill feed.

THE CHAIRMAN: Sorry, did you -- I'm not sure I understood what you're asking is.

MR. ELDER: Just to clarify, because I think we, going forward when we're reporting, you're interested in not only how much came out but how much went

in, so the amount of the -- the quantity of ore processed as well as the quantity of concentrate produced.

So we -- if you look in the discussion -- I don't want to have that discussion tomorrow, but we are including some of that data in the end of our report, so maybe it's a comment on -- related to tomorrow and how we present the information.

THE CHAIRMAN: Okay. Any other questions?

MEMBER HARVEY: Just one question.

THE CHAIRMAN: Le micro.

MEMBER HARVEY: The last figures we received this morning, what are the units for the production? It's in pounds? The French ---

MR. CORMAN: Jim Corman for the record.

The units of production are in pounds U_3O_8 .

MEMBER HARVEY: Oh okay. So usually it's the French version of that, isn't it, or ---

MR. CORMAN: This is the English version.

MEMBER HARVEY: Yes, the first one here is -- I read it in French it's in "livres". That's okay, but when you say pounds, is this the abbreviation there?

MR. CORMAN: Just to clarify, yes, that is the appropriate -- the ---

MEMBER HARVEY: Okay. I'm surprised with that. I understand.

MR. CORMAN: --- per pounds, yes.

MEMBER HARVEY: Okay.

THE CHAIRMAN: Anything else?

Okay. I have two quick issues. On, first of all, lessons from Fukushima on your page -- staff page 8, you're talking about all the -- all the things that -- the whole mining community have done to make sure that they test the emergency plans. And you know by now that I always ask the same question: did you consider a doomsday scenario where everything that can go wrong goes wrong.

And I was also interested in some of the discussion that now I understand it says here in the third paragraph there's a mutual aid agreement in place between AREVA and Cameco.

Maybe you can describe a little bit what does it mean? And did you do kind of a doomsday scenario and how you will mitigate and react to it?

MR. CORMAN: Jim Corman for the record.

Our mutual aid agreement exists between Cameco and other operators in Northern Saskatchewan. It's a mutual assistance agreement wherein if one mine is in need of help in an emergency situation, the other mines are conducive to freeing up equipment and to train people to go and help in those situations. So we have that agreement with Cameco and the other mine operators in

northern Saskatchewan. Certainly at all times we'll keep a minimum staff at our operating sites to ensure if there was a concurrent emergency that we're still prepared to deal with that at our own sites, but where we have excess equipment, or excess people, we will free those up to the other operators in need.

A doomsday scenario, we certainly looked at all the credible, natural hazards that could arise at our McClean Lake operation. We are fortunately in a zero seismic zone. So a situation similar to Fukushima could not happen at McClean, but we did look at the opportunities of extended drought periods, or flood periods, and wildfire events are probably the more likely scenarios in our operating sites, and we evaluated the consequences of those.

We have done extensive training of our emergency response teams to deal with hazards, such as forest fire fighting. We have worked with the provincial government as well. This summer was a good example where there was a forest fire near the mine sites where the provincial government came and assisted in putting out those fires.

So certainly there's -- in our situation a doomsday scenario is a loss of power to the plant, or a fire situation. And we have monitored that through some

mock emergencies, and I'll ask Mr. Richards, the general manager of McClean to maybe expand on those scenarios.

MR. RICHARDS: Jack Richards for the record. Yes, we did, as Jim said, we eliminated the possibility of some natural types of disaster, but we did attempt to create a credible scenario where we had three compounding issues. We had a simulated power outage combined with an environmental spill and a personnel injury in our last mock emergency.

We did learn a few things coming out of that and we'll adapt to that in the near future. Certainly communications was the largest issue that we came across. We have radios which are capable of communicating line-of-sight without power, but the main paging systems and so on of course do not function without power.

So there was some manual scurrying about to assemble an ERT team. But it was all done well and we have no large concerns. We do have a new power system coming in. So we'll have standby power that's available on demand in a couple years, and that will eliminate in large part that issue. But I do have increasing confidence in ERT. They've got the ability to respond to internal fires now inside the mill as well as the wildfire training. So I think they're in good stead for this.

THE CHAIRMAN: I assume you all have satellite phones.

MR. RICHARDS: We have a satellite phone as well, yes.

THE CHAIRMAN: And you have batteries I assume?

MR. RICHARDS: We have that as well, yes.

THE CHAIRMAN: So Staff, are you -- you know, I still hear the credible scenario, right. That's not a doomsday scenario. Doomsday scenario is incredible scenario.

MR. ELDER: So ---

THE CHAIRMAN: And one would be a blackout with a flash flood in a mine where the pumps are not working. To me, those are the kind of scenario I'm ---

MR. ELDER: So I'll go back in and say I think they're using the word "credible" not to say it's likely. To say that, like you said, eliminating the seismic risk, because if you look at a seismic map, northern Saskatchewan is the lowest -- one of the lowest points of seismic activity in the world. You know, that's sort of what we're saying. So you're not going to have a large earthquake.

But you actually look at the history of the mining, they've had a lot of your actual credible -- you

know, so they're already designed to do. And all of these facilities are at the end of power lines. So you never in any point would you depend on offsite power, because you're at the end of the line. So a lot of them for mine rescue you have to assume you can do it without power. It's always been the assumption.

So a lot of these more doomsday-like scenarios actually always had to be a part of their assumption because they had to be self-sufficient. They had no other choice. You can't rely on anybody else. But the main thing to point out is that there's nothing in the normal operation that requires power to maintain the environmental safety. You know, this is all about worker safety.

Their main -- to protect the public and the environment all the effluent is actually in ponds and need a pump to put it into the next area. So without power actually none of your effluent is going anywhere.

So it's not like a situation you get a reactor where you need power to maintain it safe. Actually, once you turn off the power the concern is are you protecting -- can you protect workers, can you deal with worker safety? The actual protection of the environment is relatively simple because nothing is going to happen without power to effluent treatment, to manage

the plant, to do everything. Nothing happens without power. And there's nothing that needs power to keep it in a safe state, it automatically goes to a safe state.

THE CHAIRMAN: Okay. Thank you for that.

My last question is maybe you can explain why there was no interest in some of the local communities, particularly the aboriginal. I'm struck by we recently issue a licence in Quebec, and we got all kind of reaction.

So it's again, it's like two different aboriginal communities. There's a Quebec aboriginal community and the Saskatchewan aboriginal community. How do you explain the differences and the absolutely lack of input into this licence? Anybody?

MR. CORMAN: Jim Corman for the record.

Certainly in northern Saskatchewan we have a long track history of working in the north, so we've been operating mines in northern Saskatchewan for decades. And through that period of time we've generated a good working relationship, a good understanding, a good relationship with the northern communities.

Certainly as we go out to the communities and discuss our projects there are challenges and issues that come forward primarily related to opportunities for job employment, contracting opportunities.

So those, when we go in the north area, are the primary focus, they're generally very happy with -- you know, most of the communities have members from those communities working at the mine sites. So they're cognizant of what we do to protect the health and safety of the people and of the environment.

So those aren't their immediate concerns. Their bigger concerns when we go to the north are primarily in job opportunities and contracting opportunities. Perhaps Ms. Van Lambalgen will expand on that.

MS. VAN LAMBALGEN: Thanks, Jim. Tammy Van Lambalgen for the record.

I think you took most of the answer away. I'd like to say it's a good engagement program that we have, but I think it is our longstanding history in northern Saskatchewan.

And we do afford a fairly high public approval rating in Saskatchewan in comparison to other industries, it's been as high as 79 and 80 percent. So that could be reflective of this lack of interventions for this particular application.

THE CHAIRMAN: But is this community not concerned with their friends and brothers in northern Quebec that are looking at uranium mining as totally

unsafe? I would expect that some of this would be at least of concern to some of the people in the north of Saskatchewan. I'm just stunned by the lack of reaction here.

MS. VAN LAMBALGEN: Tammy Van Lambalgen for the record.

I think Jim mentioned it. It's -- we have a long history. We've been operating over on the west side since early '70s. And on the east side where McClean Lake is -- well, Key Lake has been operational since the '80s. So I think our long history of a safe and protective to the environment and that the workers' record speaks for itself in many respects.

We have, just to expand, encouraged the communities to extend their information to other aboriginal communities in the country. And we do bring in particular aboriginal communities from Nunavut to our mine sites for reviewing to get them comfortable. And we haven't, as far as AREVA is concerned, extended the same opportunity yet to the Quebec aboriginal communities.

THE CHAIRMAN: Okay, thank you. Last, anything else? Go ahead, somebody.

MS. MANN: Hi, it's Kim Mann for the record.

I just -- you had asked about the

Saskatchewan Indian Institute of Technologies and we found some information on their website if you would like to hear about it?

THE CHAIRMAN: Sure.

MS. MANN: All right. So the Saskatchewan Indian Institute of Technologies is governed by Saskatchewan's First Nations and it was established in 1976 as Saskatchewan's Indian Community College.

In 1985 it changed to the Saskatchewan Institute of Technologies and is a First Nation-controlled post-secondary institute in Canada. It initially delivered on-reserve adult academic upgrading, introductory skills and trades and basic management training to First Nation adults throughout Saskatchewan.

The mandate is the Saskatchewan Indian Institute of Technologies provides academic career education and training to First Nations adults in Saskatchewan and it is governed the *Saskatchewan Institute of Technologies Act* of the Federation of Saskatchewan Indian Nations Legislative Assembly.

On July 1st 2000, specific provincial legislation in the Province of Saskatchewan recognized the SIIT as a post-secondary institution through the *Saskatchewan Indian Institute of Technologies Act*. The Act was given the institution recognition from both the First

Nations and non-First Nations communities and the legislation helps First Nations students transfer credits to other post-secondary institutions and have their certificates and diplomas recognized by both First Nations and non-First Nations employers.

THE CHAIRMAN: Thank you.

So I assume that is probably a good institute to go look for employees. Thank you. Thank you very much.

Marc?

Okay. We will reconvene at 1:15 with the, I think, the AECL presentation. Thank you.

MR. LEBLANC: That is correct. So with respect to this matter, the Commission will confer with regards to the information that it has considered today and then determine if further information is needed or if the Commission is ready to proceed with a decision. We will advise accordingly.

Thank you.

--- Upon recessing at 12:37 p.m.