

1 --- Upon resuming at 3:30 p.m.

2 **HEARING DAY 1**

3 **Cameco Corporation:**

4 **Application for a licence to operate the**

5 **Key Lake Operation**

6 THE CHAIRPERSON: I will now go to
7 Agenda Item No. 7, which is the Hearing Day 1 for
8 Cameco Corporation: Application for a licence to
9 operate the Key Lake Operation. Day 2 is
10 scheduled for October 4, 2001.

11 I will ask Cameco Corporation to
12 start with their oral presentation. This is
13 outlined in CMD documents 01-H22.1 and 01-H22.1A.
14 I will turn it over to Mr. Michel, please.

15

16 **01-H22.1/01-H22.1A**

17 **Oral Presentation by Cameco Corporation**

18 MR. MICHEL: Thank you, Madam
19 Chair. John Jarrell will again present the Key
20 Lake operation, and will be supported in his
21 presentation by Bill Wakabayashi, the General
22 Manager of the operation.

23 MR. JARRELL: Thank you. For the
24 transcript record of the hearing, my name is John
25 Jarrell, and I am Vice-President, Environment and

1 Safety for Cameco.

2 I would like to give a brief
3 overview of our written submission.

4 The Key Lake site is defined by
5 two former uranium deposits: The Gaertner
6 deposit, which was discovered in 1975, and the
7 Deilmann deposit, which was discovered the
8 following year. This picture depicts the mill.

9 Following a four-year approval
10 process, production commenced in the year 1983.
11 Mining was completed in 1997, with about 200
12 million pounds of uranium recovered from this
13 site.

14 The site has two tailings
15 management facilities, three main waste rock
16 piles, and two special waste piles. McArthur
17 River ore processing commenced in the year 2000.
18 The operation is owned by Cameco and COGEMA and
19 operated by Cameco.

20 The Key Lake surface lease
21 consists of approximately 3,500 hectares of land.
22 This is an area smaller than the city of
23 Saskatoon. Not all of the leased Crown land has
24 been disturbed, as shown by this plan view of the
25 property. The lease extends in a narrow band to

1 the northeast to encompass the air strip. Note
2 the two pits, the former ore stock pile area, and
3 the grinding plant are separated from the milling
4 facility and the employee residence.

5 The two open pits, Gaertner and
6 Deilmann, provided the mill with feed until the
7 end of 1999, despite mine closure in 1997. Both
8 pits are now used as waste management facilities.

9 One million cubic metres of nickel
10 rich waste rock has been placed in the Gaertner
11 pit, covered with two metres of sand. This
12 prevents further oxidation of the material and
13 release of contaminants.

14 The Deilmann pit has been
15 converted to the current tailings management
16 facility.

17 The above-ground tailings
18 management facility was used from October 1983
19 until December 1995, when tailings deposition was
20 switched to the Deilmann tailings management
21 facility. The facility consists of a bentonite
22 liner base overlaid with a drainage collection
23 system. The north, south and west embankments are
24 constructed of compacted glacial till. The east
25 embankment contains a sand and gravel drainage

1 system, which collects the tailings supernatant
2 and seepage. These waters are collected and
3 pumped to the mill facilities for treatment.

4 The facility presently contains
5 approximately 6 million cubic metres of tailings.
6 The outside dimensions of this facility are 720 by
7 720 by 20 metres, or about 45 hectares.

8 Waste materials grading less than
9 0.05 per cent U_3O_8 are stored on piles at the pit
10 perimeters. Waste rock at Key Lake is classified
11 into three categories: Clean waste rock grading
12 less than .05 per cent uranium; nickel rich waste
13 rock, which contains greater than .02 per cent
14 nickel; and special waste, which contains uranium
15 in the range of .05 up to .15 per cent U_3O_8 .

16 The three waste rock piles, the
17 Deilmann north contains about 17 million cubic
18 metres. It is the largest pile. The next largest
19 pile is the Deilmann south with about 13 million
20 cubic metres, followed by the Gaertner pile, which
21 is about 6 million cubic metres of waste rock.

22 All low-grade materials, that
23 being between the .05 and .19 per cent, were
24 placed on two lined waste pads called the Gaertner
25 special waste pad and the Deilmann special waste

1 pad. Both have about 500,000 to 600,000 cubic
2 metres of material. Current plans are to blend
3 these materials to reduce the feed grade at the
4 McArthur River ore.

5 We are currently processing
6 McArthur River ore at about 4 per cent U_3O_8 feed
7 grade. The first high-grade ore from McArthur was
8 received in March 2000. A notable change was the
9 transition of the in-pit tailings facility to
10 fully flooded subaqueous disposal conditions.
11 This change was successful. The main problem has
12 been in achieving the targeted tailings density
13 consistently.

14 In essence, the issue is
15 maintaining proper pipeline and flow velocities to
16 avoid sanding out or plugging the tailings line.
17 Key variables are mill throughput and tailings
18 composition.

19 As might be expected, converting
20 Key Lake to a different ore source was not without
21 its challenges. This slide lists the main issues
22 which were addressed. In essence, avoiding
23 plugging problems, be they from sanding out of
24 tailings or high-grade pitchblende or from
25 generated gypsum or calcium sulphate material, was

1 the core issue which had to be addressed during
2 the switch.

3 This slide shows the drawing of
4 the Deilmann tailings management facility and the
5 cross-section and shows the main design features.
6 Tailings pour water and ground water are collected
7 from an underdrainage system through a vertical
8 raise to the mill water treatment system. A side
9 drain collection system was initially utilized
10 during subaqueous phase of operation and has since
11 been capped off. The tailings delivery system has
12 been modified for subaqueous tailings deposition
13 at a targeted 35 per cent solids content,
14 injecting directly into the tailings body.

15 Conversion of the Deilmann
16 tailings facility to subaqueous disposal has a
17 number of benefits, which include protection from
18 frost build-up, reduced water pumping and water
19 treatment requirements due to reduced ground water
20 gradients, elimination of potential dusting
21 problems associated with subaerial tailings
22 surface, and elimination of radon gas releases and
23 gamma fields from water cover.

24 This is a picture of early
25 operation of the tailings facility prior to

1 flooding. The capacity of the Deilmann pit is
2 sufficient to store all of the McArthur River
3 tailings, based on currently-known reserves. It
4 is also possible that all of the existing surface
5 tailing may be moved to this facility as well.
6 Overall capacity of about 12 million cubic metres
7 has been estimated based on a fill level to the
8 sandstone overburden contact horizon at about 476
9 metres.

10 This is a picture of the pit
11 partially flooded. You may note in the background
12 a ridge which shows that there are actually two
13 compartments to this tailings disposal facility.

14 Finally, here is a picture of the
15 facility taken about two weeks ago for this
16 presentation. Water elevation is currently about
17 470 metres. Recall that I said that the lowest
18 sandstone overburden contact was about 476 metres.
19 That will give you some perspective of where the
20 water is.

21 The most recent bathymetric survey
22 carried out in September 2000 showed that about
23 1.8 million cubic metres of tailings have been
24 deposited so far in this facility.

25 During the current licensing

1 period, a number of other notable activities took
2 place. Construction of a new lined waste rock
3 pad; repairs to the Deilmann special waste pad;
4 investigations of the Gaertner special waste pad;
5 a performance review of deposited nickel rich
6 waste rock and associated well failure in the
7 Gaertner pit; approval to carry out a mill scale
8 trial of uranium recovery from fuel services,
9 that is our Port Hope and Blind River operation
10 materials; and a business practices improvement
11 initiative.

12 This picture shows construction of
13 the new waste rock pad last year in the vicinity
14 of the original Key Lake ore pad. The first phase
15 of this pad, or about 12,000 square metres, was
16 constructed in 2000. You may note some remaining
17 Key Lake ore in the background of this picture.

18 This is a current picture of the
19 new waste rock pad taken two weeks ago for this
20 presentation. Note the McArthur River ore slurry
21 trucks in this picture as well.

22 Here is a picture of an 8,000
23 square metre extension of the waste rock pad,
24 again taken about two weeks ago. You may also
25 note the removal of some of the residual Key Lake

1 ore since the year 2000 in the background.

2 This slide shows a picture of the
3 north end of the Deilmann special waste pad which
4 required repair in the year 2000.

5 Here is the repaired area prior to
6 sand cover. About 2,500 square metres of
7 polyethylene liner were placed where the original
8 bentonite liner had been damaged.

9 This is a picture of the Gaertner
10 pit. Note the deposition of about 1 million cubic
11 metres of waste rock and about 300,000 cubic
12 metres of sand cover which was done in 1998. You
13 may note on the slope failure and the crib well
14 movement at the end of the causeway -- this is the
15 crib well right there I am showing with the mouse
16 in there -- the elevation is about 500 metres.
17 The plan is to flood up to about 510 metres or
18 about an additional ten metres. This would be
19 about ten metres below the final ground water
20 recovery level of about 520 metres.

21 This is a picture from the other
22 end of the Gaertner pit. You can see in this
23 picture the ore receiving and the crushing and
24 grinding plant in the background. Again, this
25 picture is about two weeks old.

1 From a radiation protection
2 perspective, good control was maintained on
3 exposure. We have seen less than what we expected
4 and was predicted in the EIS. However, it is
5 also fair to say that we have yet to see a full
6 year of production at 4 per cent ore grade.

7 We nevertheless judged the first
8 year to be a success from a radiation protection
9 viewpoint, with a fundamentally sound design of
10 the process. The ongoing challenges we see in
11 this area are that of employee training,
12 housekeeping and the previously mentioned settling
13 issue with high-grade pitchblende.

14 The site has experienced a very
15 good safety performance. There has been no
16 lost-time accidents to date, however there may be
17 one arising from a year 2000 medical aid this
18 summer. The combined work force has operated
19 about 2.3 million person hours accident free.
20 They currently have a 46-month run of lost-time
21 injury-free accidents, which is much greater than
22 the 16-month run, which had been achieved on two
23 other occasions. As previously noted, the site
24 was awarded the John T. Ryan award in conjunction
25 with McArthur River for 1999 performance.

1 This plot shows lost-time entry
2 performance for both Cameco and lost-time
3 contractors since 1988. The Y axis is the number
4 of lost-time accidents which occurred in any given
5 calendar year.

6 The effluent treatment system has
7 operated reasonably well. However, there was one
8 monthly trout test failure in the year 2000, the
9 first since 1994 or the first failure in over 100
10 tests since the original problem was uncovered in
11 the 1993-94 period.

12 We also discovered intermittent
13 fish toxicity in the small lake which received the
14 effluent. Two failures occurred in 2000 or two of
15 56 tests since testing at this location began in
16 1994. We did see fish toxicity but we have never
17 seen micro-toxicity, which is a surrogate for
18 toxicity using bacteria. We have had no failures
19 of this test in over 2000 samples taken since the
20 year 1994.

21 Here is a picture of Wolf Lake.
22 It is about eight hectares in surface area. It is
23 about two metres deep. In other words, it
24 contains about 160,000 cubic metres of water,
25 which is equivalent to about one month's of

1 effluent production. You can also see the mill in
2 the background. The discharge from this lake is
3 to the left of the picture.

4 Here is a picture of the Wolf Lake
5 discharge towards the next lake called Fox Lake,
6 which you can barely see in the background of this
7 picture. The stream at this point is about two
8 and a half to three feet wide. It is about ten to
9 30 centimetres deep. You can see a one-metre
10 staff gauge in this picture as well. This is just
11 to give you a perspective of what this discharge
12 looks like when it crosses the highway.

13 There were ten SERM reportable
14 incidents to date in the current licensing period.
15 None were judged to have significant environmental
16 effect. We filed the second wide-ranging State of
17 Environment Report. The overall conclusion from
18 this work was that Key Lake essentially operates
19 as predicted with the EIS boundaries.

20 We have seen significant
21 reductions in the nickel loading from the
22 dewatering system, which was installed around the
23 Deilmann and Gaertner pits due first to the
24 installation of a reverse osmosis plant, and
25 secondly due to the reflooding for subaqueous

1 tailings disposal. Nevertheless, we anticipate
2 additional biological-based environmental
3 monitoring and assessment work over the next
4 licensing period.

5 We have also put a fair amount of
6 priority in developing an ISO 14000-based
7 environmental management system for this facility.

8 The site has an active community
9 consultation program, focusing on the
10 Environmental Quality Committee, which has been
11 discussed previously; the Mudjatic co-management
12 boards, which deal with road access issues; and
13 the Northern Labour Market Committee. The site
14 also coordinates its activities out of an office
15 in LaRonge in northern Saskatchewan.

16 In the current licensing period,
17 decommissioning work has largely been overshadowed
18 by work on the Deilmann tailings management
19 facility, special waste and ore waste rock
20 investigations and related construction
21 activities.

22 Active decommissioning projects
23 include a waste rock research program, which is
24 entering its fourth year in conjunction with the
25 University of Saskatchewan and the University of

1 British Columbia and COGEMA, an update of
2 geochemical waste rock modelling to refine the
3 model to basically tune it up to existing
4 conditions, and also an above-ground tailings
5 management relocation feasibility study.

6 The picture shown here basically
7 shows ongoing consolidation of the above-ground
8 tailings facility. That is what is in this
9 picture in the backdrop.

10 The site operates an extensive
11 revegetation program, focusing on tree planting
12 and hydroseeding. However, the efforts in 1999
13 through 2001 have been somewhat less than in 1997
14 to 1999.

15 We hope to ramp up production to
16 licensed production limit, and we also hope to
17 investigate the feasibility of increased
18 production capacity and also some mill process
19 simplification.

20 We hope to seek more permanent
21 approval to recover uranium from Fuel Services
22 Division Recyclable Products, pending the mill
23 scale trial, which is going to be underway
24 shortly. We are seeking cost reductions obviously
25 within appropriate environmental and safety

1 boundaries, and we hope to adopt a more systematic
2 quality assurance program as described in Bernard
3 Michel's original presentation of the Rabbit Lake
4 hearing.

5 In summary, we believe Key Lake
6 has demonstrated a high level of commitment to
7 safety, has operated in a responsible fashion, has
8 successfully transformed its operation to one of
9 custom milling McArthur River ore, and has
10 demonstrated an ongoing commitment to
11 decommissioning and its dialogue with northern
12 neighbours.

13 We, therefore, respectfully
14 request that the Commission give favourable
15 consideration to renewal of the Key Lake Licence.
16 We also request consideration for extending the
17 licensing period in light of the anticipated
18 relative stability of the operation.

19 Recognizing the CSNS staff
20 recommendation to report back to the Commission in
21 about two years' time, we recommend some form of
22 mid-term licence in lieu of formal relicensing.
23 We believe the work required in formal relicensing
24 may very well be more appropriately revisited on a
25 time frame greater than every two years.

1 Thank you for your attention.

2 THE CHAIRPERSON: Thank you. With
3 the concurrence of the Commission members, I will
4 hold questioning to the licensee until after the
5 presentation by CNSC staff.

6 On that basis, I will turn to the
7 oral presentation by CNSC staff, which are
8 referenced in CMD document 01-H22, and I will turn
9 to Mr. Pereira.

10

11 **01-H22**

12 **Oral Presentation by CNSC staff**

13 MR. PEREIRA: For the record, my
14 name is Ken Pereira. I am the Director General of
15 the Directorate of Fuel Cycle and Materials
16 Regulation.

17 The licence held by Cameco
18 Corporation for the Key Lake operation authorizes
19 the milling of ore and waste management activities
20 at the site. During the term of the current
21 licence, a number of changes have been implemented
22 in the milling operation to accommodate the
23 processing of ore from the McArthur River mine.

24 Conditions in the current licence
25 required Cameco to report to the CNSC on the

1 changes and on radiation exposures during the
2 first year of milling of the McArthur River ore.

3 CNSC staff reports in CMD 01-H22
4 on the assessment of this information and of other
5 licensing programs at the Key Lake facility over
6 the term of the current licence. The CNSC staff
7 recommendation for licensing of the operation is
8 based on assessments of the status of a number of
9 the managed programs at the facility.

10 I will now pass the presentation
11 over to Mr. McCabe for review of Cameco's
12 performance of the facility and to present the
13 CNSC staff recommendation for renewal of the
14 licence.

15 MR. McCABE: Thank you. Madam
16 Chair, members of the Commission, Rick McCabe
17 speaking.

18 Cameco's Key Lake operation is
19 currently licensed by the CNSC. Cameco has
20 applied for renewal of its uranium mining
21 operating licence for a five-year term, with no
22 change in activities being proposed. The
23 Commission is requested to consider issuing a
24 uranium mill operating licence for a 27-month
25 term.

1 The Applicant is seeking CNSC
2 approval to continue its uranium milling operation
3 at Key Lake. The activities requested include the
4 following:

5 Monitor and manage existing ore
6 storage and waste management facilities; receive
7 and store ore and mineralized waste rock from the
8 McArthur River operation; mill mineralized rock
9 and ore from the Key Lake and McArthur River
10 orebodies; produce a concentrate containing no
11 more than 7.2 million kilograms of uranium per
12 year; dispose of solid waste products from milling
13 in the in-pit tailings management facility; treat
14 waste water and release treated effluent to the
15 environment; monitor and manage their ancillary
16 facilities; conduct mill-scale tests to optimize
17 and expand the present capability of the milling
18 process; and possess, store, transfer, import, use
19 and dispose of nuclear substances.

20 This presentation includes the
21 results of CNSC staff's assessment of the major
22 programs in place at the Key Lake operation.

23 I have previously with the Rabbit
24 Lake submission described the process involving
25 Saskatchewan Labour, Human Resources Development

1 Canada, and the CNSC, with Sask. Labour taking the
2 lead role and CNSC's being less.

3 The Occupational Health and Safety
4 Committees are established at the Key Lake
5 operation in conformance with provincial and
6 federal regulatory requirements. There are two
7 committees at the Key Lake operation consisting of
8 employees and supervisors, who are charged with
9 the responsibilities of reviewing past incidents,
10 conducting inspections, evaluating safety programs
11 and recommending health and safety improvements.

12 The OHC is consulted on safety
13 issues and is copied by CNSC on all safety-related
14 correspondence sent to the licensee.

15 Saskatchewan Labour has provided
16 the CNSC with their evaluation of Key Lake's
17 performance with respect to conventional health
18 and safety as follows:

19 "In our opinion, the site
20 Occupational Health
21 Committees at Key Lake,
22 McArthur River, and Rabbit
23 Lake are operating in a
24 satisfactory manner. The Key
25 Lake mine has traditionally

1 had a very good attitude
2 towards safety and this is
3 reflected in their safety
4 record."

5 Section 29 of the General Nuclear
6 Safety and Control Regulations requires the
7 licensee to report incidents related to
8 conventional health and safety. These include
9 events that either constituted a serious risk to
10 health and safety or that actually resulted in
11 serious injury or death. There were only four
12 such incidents reported during the licensing
13 period, December 1999 to present. Only one of
14 these incidents actually resulted in injury and
15 involved an electrician, who received flash burns
16 while working on an electrical panel.

17 Overall, the Conventional Health
18 and Safety Program is acceptable.

19 CNSC staff finds that Cameco has
20 met their application requirements in the guidance
21 that has been provided to them.

22 The Radiation Protection Program
23 in operation at Key Lake has operated effectively
24 during the current licensing period. The
25 performance of the radiation program is

1 acceptable.

2 The revised Radiation Protection
3 Program manual submitted provides an acceptable
4 basis for an effective Radiation Protection
5 Program as required by the CNSC Radiation
6 Protection Regulations.

7 During the licensing period, the
8 ore grade through the plant was increased to 4 per
9 cent. The average effective dose in 2000 was 1.1
10 millisieverts, and the maximum effective dose was
11 8.1 millisieverts. These doses were within the
12 range predicted in the Environmental Impact
13 Statement and are considered acceptable.

14 A radiation protection evaluation
15 was conducted by CNSC staff at Key Lake in June of
16 this year. While the final report has not been
17 issued, the preliminary findings have been
18 reviewed with Key Lake staff. The evaluation
19 found improvements in work control procedures and
20 radiation monitoring programs, but noted
21 weaknesses in training and general plant
22 housekeeping. CNSC staff intends to issue the
23 final report soon -- I understand "soon" is
24 tomorrow -- and will follow up on the licensee's
25 response to the identified weaknesses.

1 The proposed action levels for
2 effective dose of 1 millisievert per week and 5
3 millisieverts per quarter are considered
4 acceptable for this licensing period. These
5 action levels also are supplemented with
6 administrative levels contained in the Code of
7 Practice and will be reviewed during the licensing
8 period.

9 Overall, the Radiation Protection
10 Program is acceptable.

11 CNSC staff finds that, with
12 respect to the Environmental Protection Program,
13 the application requirements have been met. CNSC
14 staff finds Cameco's Environmental Protection
15 Operating Policies and Principles are
16 comprehensive and include suitable commitments for
17 ensuring the environmental protection requirements
18 under the NSCA and the Regulations. In addition,
19 the Key Lake operation is developing a quality
20 assurance program for environmental protection
21 called an Environmental Management System that
22 incorporates the key elements of ISO 14001.

23 The Code of Practice for
24 environmental protection identifies action levels
25 for effluent releases as required by the Uranium

1 Mines and Mills Regulations, and is considered
2 acceptable for this licensing period. Staff
3 intends to review these action levels during the
4 licensing cycle as operating experience is gained.

5 Recent environmental performance
6 is relevant in assessing the Applicant's ability
7 to meet the licensee's environmental protection
8 obligations under the NSCA and Regulations.
9 Environmental monitoring is carried out by the
10 licensee according to the CNSC approved program.
11 The monitoring results for the current licensing
12 period indicate that environmental impacts are
13 within the scope of the Environmental Impact
14 Statement predictions and that the licensee is
15 taking adequate measures to prevent further
16 impacts on the environment.

17 I must report that, as of August
18 the 4th, there was a failure of a sample to meet a
19 regulatory limit. We just received the report
20 yesterday. The situation was batch discharge of
21 liquid from the Key Lake operation. The effluent
22 is treated and discharged into a pond. During the
23 filling of the pond, there is a sample collection
24 -- there is an onstream analyzer -- and the sample
25 is analyzed and deposited in the pond.

1 Prior to discharge, you would get
2 the results of the analysis. If they are
3 acceptable within the ranges for discharge, then
4 the pond can be discharged to the environment, and
5 a sample is also taken upon discharge to the
6 environment.

7 In this case, the initial
8 indication was that the parameters were acceptable
9 for discharge from the pond filling composite.
10 However, when the pond was being discharged for
11 the first couple of thousand litres, it was
12 indicated that the pH was outside of the range.
13 The bottom range of the pH is 5 and this sample
14 was in at 4.8, not a substantive variation.

15 However, it indicated failure of
16 the equipment. It was operator error and failure
17 of equipment that led to this sample. I just
18 wanted to bring the Commission up to date because
19 we just got that information.

20 During the current licensing
21 period there were two incidents involving failure
22 of fish toxicity tests. Given that there is a
23 history of impact and impairment of fish health in
24 the David Creek watershed, CNSC staff concludes
25 that Cameco must continue to monitor the treated

1 effluent closely and must conduct investigations
2 in the receiving environment to determine what is
3 happening that there may be causing periodic fish
4 health problems.

5 In September 2000, CNSC staff
6 carried out an evaluation of the Key Lake
7 Environmental Protection Program. Cameco has
8 responded to all the action notices identified
9 during that evaluation, but some of those
10 responses were unacceptable to CNSC staff.
11 Consequently, Cameco has been requested to revise
12 the unacceptable responses and to submit them to
13 the CNSC by August 20, 2001. We will be able to
14 update the Commission at Day 2 with regard to
15 those responses.

16 Overall, CNSC staff finds that the
17 Key Lake operation has an Environmental Protection
18 Program which has adequate provisions to prevent
19 unreasonable risk to the environment. However,
20 action notices identified during the September
21 2000 evaluation have not all been addressed
22 satisfactorily, and the periodic problems with
23 fish health in the David Creek watershed remains
24 unresolved. Therefore, staff concludes that the
25 Environmental Protection Program is conditionally

1 acceptable, pending the satisfactory resolution of
2 all action notices and the completion of an
3 investigation of possible causes of fish health
4 problems in the David Creek watershed. CNSC staff
5 may be able to update the Commission on these
6 issues at Day 2 of this hearing.

7 The same comments that have been
8 made with regard to quality assurance for Rabbit
9 Lake and the McArthur River apply. The
10 requirement for a report to the Commission by
11 April 30, 2002 is also in the Key Lake licence.

12 Cameco undertakes community
13 consultation. This is all clearly defined and is
14 very similar to what we have read into the record
15 before and is clearly contained in CMD 01-H22 for
16 reference. I will just pass through that.

17 I would advise you that CNSC staff
18 has participated in several of Cameco's
19 communication sessions. Based on this experience,
20 on the public consultation program, and on
21 Cameco's ongoing commitment as stated in the
22 application, CNSC staff finds this program to be
23 acceptable.

24 Emergency Preparedness, Waste
25 Management, Health and Safety, Training and

1 Security Programs were also reviewed and found to
2 be acceptable.

3 Waste management issues that have
4 been identified that will continue to receive
5 attention in the upcoming licensing period are as
6 follows:

7 Operating problems with tailings
8 density and solids segregation in the Deilmann
9 in-pit TMF in 2000 do not threaten the integrity
10 of the facility but may create problems in
11 decommissioning if this problem persists.

12 Field research and modelling
13 studies on waste rock, due to be completed in
14 2002, will form the basis for a plan to
15 decommission the Gaertner and Deilmann waste rock
16 piles.

17 Remedial work and ongoing
18 monitoring in relation to faulty bentonite liners
19 will continue.

20 A financial guarantee for
21 decommissioning in the form of an irrevocable
22 letter of credit for the sum of \$45.6 million was
23 put in place on October 31, 1997.

24 There is a need to revise the plan
25 in accordance with the CNSC requirements.

1 Consequently, two conditions have again been added
2 to the licence: One for Cameco to maintain the
3 current financial guarantee, and the second
4 requiring Cameco to update this.

5 The Joint Federal-Provincial Panel
6 on Uranium Mining Developments in northern
7 Saskatchewan reviewed the proposal to process
8 uranium ore from the McArthur River operation at
9 the Key Lake facility under the federal
10 Environmental Assessment and Review Process
11 Guidelines Order.

12 The panel issued a report in
13 February of 1997, and the federal government
14 responded to the panel's report in May of 1997,
15 agreeing that the project should proceed.

16 The AECB identified the panel
17 conditions in Appendix 1 of BMD 99-107 and
18 explained how these would be dealt with during the
19 licensing period. While most of the actions
20 identified in the BMD were addressed, some of
21 these actions are ongoing and are being monitored.

22 The ones that are being monitored,
23 for example, are those recommendations that
24 applied to the province or other federal agencies,
25 and we continue to follow up on these. A good

1 example of this is a recommendation for the
2 province to lead the establishment of a group to
3 work on water quality objectives. We agreed to be
4 a part of that, and just last month we received a
5 request from the province to be part of that
6 group.

7 The measures that have been
8 identified for the control of the environmental
9 effects have been substantially implemented, such
10 as the water treatment plants and the dewatering
11 wells are examples of the measures implemented to
12 reduce the environmental effects.

13 The activities at the Key Lake
14 facility that are to be authorized by the proposed
15 issuance of the operating licence are the same as
16 those authorized by the current licence, for which
17 the conclusions of the environmental assessment
18 remain valid. The mitigation measures and the
19 relevant controls for environmental effects have
20 been substantially implemented.

21 Accordingly, pursuant to Section 3
22 of the Exclusion List Regulations and Section 2 of
23 Schedule I, Part I of the Exclusion List
24 Regulations, an environmental assessment of this
25 project pursuant to the Canadian Environmental

1 Assessment Act is not required.

2 Therefore, staff recommends that
3 the Commission: Accept staff's assessment that
4 the Applicant is qualified to carry on the
5 activity that the licence will authorize the
6 licensee to carry on, and will, in carrying on
7 that activity, make adequate provision for the
8 protection of the environment, the health and
9 safety of persons, and the maintenance of national
10 security and measures required to implement
11 international obligations to which Canada has
12 agreed; accept CNSC staff's assessment that,
13 pursuant to Section 3 of the Exclusion List
14 Regulations and Section 2 of Schedule I, Part I of
15 the Exclusion List Regulations, an environmental
16 assessment pursuant to CEAA is not required; and
17 consider issuing a Uranium Mill Operating Licence
18 for a period of 27 months.

19 Thank you.

20 MR. PEREIRA: That concludes the
21 staff presentation, Madam Chair.

22 THE CHAIRPERSON: Thank you. We
23 will now open the floor for questions from the
24 Commission members.

25 Mr. Graham.

1 MEMBER GRAHAM: Thank you. Just a
2 clarification. At the start of staff's
3 presentation, you refer to a five-year term, and
4 then you refer to a 27-month term. The way I am
5 reading it is: Is 27 months the Commission's
6 recommendation and the five years is Cameco's
7 recommendation?

8 MR. McCABE: That is correct.

9 MEMBER GRAHAM: That was the
10 clarification.

11 On the financial guarantees of the
12 \$45.6 million that is in place now, you refer to
13 the fact that that has to be reviewed. How do you
14 come up with a \$45 million or \$50 million or \$30
15 million figure? Do you get third party
16 consultation or is it something that is just
17 agreed to between the CNSC and the Applicant?
18 That question is to CNSC.

19 MR. PEREIRA: Ken Pereira. I will
20 start off and then pass over to Mr. McCabe.

21 There is considerable experience
22 with decommissioning of mines and so there is
23 benchmark information that is available. We have
24 mines in the Elliot Lake region, where a
25 considerable amount of decommissioning work has

1 been done. So, there is some basis for the
2 figures that are reported here in these documents.

3 The updating that we are looking
4 for is to bring the decommissioning plans into
5 compliance with our new regulatory guides, G-206
6 and G-219 for decommissioning and financial
7 guarantees.

8 I will ask Mr. McCabe to comment
9 on the assessment of the individual submissions on
10 financial guarantees and decommissioning.

11 MR. McCABE: Thanks, Ken. Rick
12 McCabe again.

13 We started off in 1994 with the
14 requirement to have financial guarantees for
15 uranium mines. By 1996 we had started
16 implementing the requirements for financial
17 guarantees. We began by assessing a preliminary
18 decommissioning program, breaking down all of the
19 elements that would require costs. We made
20 certain assumptions that the operation of the
21 facility had failed. They were no longer there,
22 that we would have to hire staff or contractors or
23 something. So, these kinds of costs were factored
24 into there.

25 We put in costs for environmental

1 assessment and all of the things that would be
2 required. Then we costed out the movement of
3 material or whatever was acceptable, building of
4 covers, tearing down of buildings, breaking up
5 foundations. All of these things were considered.

6 We developed a spreadsheet to look
7 at the costs over the different operations to gain
8 some confidence in that. Costing is not something
9 that we do on a regular basis, so we had to build
10 up this kind of information.

11 When we started the process of
12 putting through these financial guarantees, we
13 made two sort of criteria on which we would revise
14 them. One would be on a regular basis, i.e. about
15 every five years, and the second thing would be
16 when there would be a substantive change in the
17 operation. If you were about to mine another open
18 pit or something like that, that might be an
19 opportune time. That is what we have used in the
20 McClellan as a trigger on which to make these
21 revisions.

22 So, we have developed this process
23 over a period of time and it is based upon our
24 experience. We are somewhat comfortable with the
25 numbers. We will feel more comfortable once we

1 get to review them. We are getting, again,
2 increased information and spreadsheet, so I think
3 we are more comfortable with the information.

4 MEMBER GRAHAM: But what you are
5 going to be doing is we are going to be asked to
6 approve a licence without knowing how much the
7 next round of financial guarantees will be. Is
8 that correct?

9 MR. McCABE: That is right.

10 MEMBER GRAHAM: So, depending on
11 the licensing approval of 27 months or five years,
12 whatever the term is, we would never know as a
13 Commission how much was affixed until such time
14 there was a problem and the guarantee had to be
15 called. Is that correct?

16 MR. PEREIRA: In the licence there
17 are deadlines for submission of the revised
18 decommissioning plans and revised financial
19 guarantee. This is something that is updated at
20 regular intervals, so it is part of our normal
21 licensing follow-up action that Commission staff
22 --

23 MEMBER GRAHAM: But it doesn't
24 come to the Commission?

25 MR. PEREIRA: It comes to the

1 Commission at licence renewal time each time.

2 MEMBER GRAHAM: So, this we will
3 not know until the licence comes up again after
4 this time?

5 MR. PEREIRA: That is correct.

6 MEMBER GRAHAM: Just one other
7 question I have, Madam Chair.

8 You talk about fish health
9 problems. As a layperson, what does that mean,
10 the fish died or it has a headache or what? What
11 are fish health problems?

12 MR. PEREIRA: Ken Pereira. I will
13 ask Dr. Patsy Thompson to comment on that.

14 DR. THOMPSON: In the early to
15 mid-nineties, there was some problem with the
16 effluent treatment process at Key Lake because of
17 process upsets.

18 At that time, the standard
19 toxicity test conducted with rainbow trout
20 indicated that the trout died when they were
21 exposed to treated effluent. Cameco undertook
22 extensive investigation to identify the
23 contaminant that was being entrained in effluent
24 and causing the toxicity. They resolved that
25 problem.

1 Following that, because toxic
2 effluent had been released for a period of time,
3 Cameco did investigations in the receiving
4 environment of whether resident fish had been
5 affected by the effluent. Essentially what they
6 found was fish with lesions on their body,
7 essentially sores and things like that.

8 What was also seen for a period of
9 time after those were first observed was some
10 recovery in the fish. The lesions were
11 disappearing and the tissues were scarring.

12 MEMBER GRAHAM: What you are
13 saying is that the fish didn't die, but there was
14 a major problem with lesions and so on?

15 DR. THOMPSON: The investigation
16 showed problems with lesions. What we are
17 uncertain about are the effects on reproduction,
18 for example. The results were less clear on that
19 aspect.

20 More recent issues were with
21 receiving environment water causing rainbow trout
22 to die in standard toxicity tests. That has been
23 seen as an intermittent problem. We have not yet
24 been able, in Cameco's investigation, to find a
25 cause of that. We have not also had

1 investigations to see the relationship between
2 trout dying when exposed to this water and
3 actually having fish problems in the receiving
4 environment. Those studies haven't been done yet.

5 MEMBER GRAHAM: Have there been
6 any studies done on what it does to the food
7 chain, whether it is up the food chain where
8 osprey or something may be feeding on the fish, or
9 down the food chain? Have you done studies? You
10 know about fish, but what about both ways within
11 the chain of development?

12 DR. THOMPSON: As indicated in the
13 CMD, and there was also mention by Cameco in their
14 presentation, they have recently completed in year
15 2000 a Status of the Environment Report. So, we
16 have information indicating that there are effects
17 on benthic-invertebrates in the near field
18 receiving environment both on the watershed
19 receiving treated effluent and on the watershed
20 receiving ground water dewatering effluent.

21 So, the effects seem to be limited
22 to aquatic biota. The types of contaminants that
23 are being released by this operation aren't the
24 types of contaminants, for example, if you think
25 of DDT that would accumulate up the food chain.

1 Those are not those types of contaminants. They
2 don't tend to accumulate. So, we don't expect to
3 see effects on fish-eating birds or fish-eating
4 mammals.

5 MEMBER GRAHAM: Thank you.

6 THE CHAIRPERSON: Dr. Giroux.

7 MEMBER GIROUX: Let's first follow
8 up on the question of the fish toxicity.

9 We have the report that there was
10 a sequence of failed tests, then two passes, then
11 one failed and then a number of successes. What I
12 wanted to have is some numbers. I want to get a
13 feeling for the scale around the limit.

14 There is a limit of five fish
15 surviving in 96 hours, I think. If five fish
16 survive you pass. How many fish did not survive
17 in the failed tests and how many fish survived in
18 the passed tests in that sequence? Does somebody
19 have that information?

20 DR. THOMPSON: Offhand, normally
21 the standard toxicity tests are fairly routine,
22 and it is unusual to see fish die in the controls
23 where there is no exposure to effluent.

24 In terms of the number of fish
25 that died exposed to effluent or exposed to

1 receiving environment water, I don't have that
2 information right here, but it is in our office.
3 So, it can be obtained quite quickly. Perhaps
4 Cameco has that information.

5 MR. JARRELL: Actually, Dr.
6 Giroux, I can't remember the numbers. As Dr.
7 Thompson says, a past failure is considered 50 per
8 cent or five of ten fish.

9 What I can say is that repeat
10 samples of the failed tests passed, but I can't
11 recall what percentage it was. Was it 10 per
12 cent, 20 per cent or whatever, I can't recall
13 that. We would have to look that up.

14 MEMBER GIROUX: Could we have that
15 information for Day 2?

16 MR. JARRELL: Yes.

17 MEMBER GIROUX: I am trying to
18 understand if we are hovering at the limit,
19 failing and passing, or if there is a strong
20 change?

21 DR. THOMPSON: What I can remember
22 is that the toxicity test failure on the treated
23 effluent; all the fish in the test died.

24 What I can't remember is the fish
25 in the receiving environment, receiving water

1 tests, how many died. But certainly in the case
2 of the treated effluent, all the fish died.

3 MEMBER GIROUX: Thank you. That
4 is part of the answer.

5 DR. THOMPSON: We can get that
6 supplementary information.

7 MEMBER GIROUX: Yes, please.

8 My second question is to staff,
9 and perhaps Cameco would want to comment also. I
10 am referring to the ground water dewatering. You
11 mentioned that after the milling is complete and
12 all that, there will be pumping and treating
13 operations as long as necessary to ensure that
14 contaminants in the ground water are reduced to
15 acceptable levels. That is on page 8 of your CMD.

16 My question here is: What is the
17 scale of time envisioned here? Are we talking
18 about years or decades? Are the costs of this
19 pumping and treating operation covered in the
20 decommissioning estimates that you have now?

21 MR. PEREIRA: Ken Pereira
22 responding.

23 Dewatering wells is an approach
24 which is used not only at this facility but many
25 other of the mining tailing management facilities.

1 It is a long-term program. One would expect these
2 programs to go on until there is a judgement that
3 the situation is stabilized and there is very
4 little movement of contaminants into the
5 environment, and that most of the water from the
6 tailings has disappeared.

7 I will ask Doug Metcalfe from our
8 Waste and Decommissioning Division to add to the
9 response. He is a specialist in ground water
10 movement.

11 MR. METCALFE: Yes. Doug Metcalfe
12 here for the record.

13 The pump and treat costs are
14 factored into the financial assurances so that is
15 in fact part of the costs.

16 It is a natural part of the
17 decommissioning work to follow-up and do that kind
18 of pump and treat work until groundwater
19 contamination has been reduced to an acceptable
20 level.

21 MEMBER GIROUX: Mr. Pereira, do I
22 understand from your answer that you are talking
23 about decades when you say "long term"?

24 MR. PEREIRA: Again I will ask
25 Mr. Metcalfe to give us an indication of the time

1 scale.

2 MR. METCALFE: Yes, it can go on
3 for that period of time.

4 I think one point being here at
5 Key Lake, though, the two pads that are of
6 greatest concern for groundwater contamination
7 right now are the Deilmann special waste pad and
8 also the Gaertner special waste pad.

9 As has been reported in the CMDs,
10 Cameco's plan is to take that special waste and,
11 for the most part, mill it through the plant to
12 help as a diluent for the ore slurry from
13 McArthur.

14 So a lot of that special waste,
15 which is the source of the contamination, will be
16 milled through the plant. The rest of it will be
17 disposed in one of the pits.

18 They have already committed to
19 excavating out the pads and about a metre of
20 contaminated soil beneath the pad, so that will
21 effectively remove the source term and the pump
22 and treat continuing work would only be required
23 to remove any residual contamination in the ground
24 that would exist at the time of the shutdown of
25 the mine.

1 The surficial materials in and
2 around the pit are sand and fairly permeable rock,
3 so that would also help to cut down on the pump
4 and treat time required.

5 MEMBER GIROUX: Thank you.

6 For Cameco now, you state in your
7 written document -- you made an analysis of your
8 radiation protection program, that you compared
9 your program now with the one that you had
10 referred to in the environmental impact statement
11 back in -- I don't have the year, but the
12 reference here.

13 You don't specify what was the
14 outcome of your comparison. Could you indicate
15 what were the results of that comparison?

16 MR. JARRELL: Certainly. The
17 results were compatible with what was predicted.

18 The issue was the fact that we did
19 not -- the year 2000 was not a full year at 4 per
20 cent. In other words, there was that sort of
21 phased growth of McArthur River.

22 So I think the feedback we got from staff
23 essentially was that even though we prorated the
24 numbers for the full year, there was still that
25 issue of to actually get a full years' data.

1 But all the evidence we have today
2 says that we are compatible with those original
3 predictions.

4 If I could add just a little bit
5 on the waste rock issue, maybe a little clarity on
6 that as well, if I could, or my perspective.

7 I think one of the important
8 factors here is the fact that the waste rock
9 piles, because they are located next to the pit,
10 essentially we captured the sort of seepage of
11 them during operation.

12 We fully expect that the Key Lake
13 operation will exist for at least another 20 years
14 so, in effect, we have sort of 20 years of, if you
15 will, sort of free pump and treat.

16 As far as the ore pads, it is
17 correct that the plan is to eventually remove
18 those.

19 With respect to the waste rock
20 piles, I think we continue to evolve the models,
21 but it would appear that the Gaertner waste rock
22 pile and the Deilmann South are probably
23 relatively benign.

24 The issue for us is probably the
25 Deilmann North pile is the one that is going to

1 require the most attention.

2 The contaminant probably which is
3 the real driver is nickel, of all things, because
4 it would appear that the other contaminants, the
5 arsenic, the radium and the uranium are fairly
6 well retarded by the sand, whereas the nickel
7 tends to be fairly mobile, as is sulphate for
8 example.,

9 So if we continue to refine the
10 models obviously over the next 20 years we have a
11 number of wells downstream between the point where
12 we capture the water and where the seepage exists.

13 I think our current thinking is
14 that we refine these models as time goes on with
15 the sort of field data, sort of a very grandiose
16 sort of geochemical modelling, the current
17 thinking we have is just to do a lot of
18 observational sort of refinement to this thing.

19 I think over the next 20 years we
20 will probably refine that decommissioning plan for
21 the Deilmann North pile, which is probably sort of
22 the principal driver at the end of the day.

23 The current thinking is that some
24 form of cover over this to shed water will reduce
25 the flux of nickel to the point that the levels

1 are very modest in the receiving environment.

2 In fact, when we do sort of an
3 inventory of nickel for the whole sort of area, it
4 would appear that actually the largest source of
5 nickel is actually associated with the dewatering
6 effort itself. In other words, just the concept
7 of producing this cone of depression we have
8 oxidized material in sort of the periphery of the
9 deposits and that probably represents the largest
10 source of nickel. Obviously that will go away
11 when we reflood and rebound the groundwater
12 system.

13 So what we are trying to do is
14 develop sort of an integrated model that considers
15 the tailings facility, the waste rock piles, the
16 special waste pads, however they expect it to be
17 gone, as well as this sort of rebound of the
18 groundwater. So it is sort of an integrated model
19 we keep working on.

20 THE CHAIRPERSON: Dr. Barnes.

21 MEMBER BARNES: A few questions.

22 I wonder if we could address the
23 bentonite liner problem. Although it is so-called
24 not yet determined the problem, it must be of some
25 surprise. Could you indicate what might have

1 happened here? Was the bentonite material from
2 the same source?

3 MR. JARRELL: That is a very good
4 question, one we asked ourselves as well, as you
5 can well imagine.

6 It would appear that there is a
7 number of bentonite liners. The first ones that
8 were put in was the one for the above ground
9 tailings facility and that one has performed well.
10 That was made of bentonite that we are able to
11 prove through our records was actually from
12 Wyoming, which is considered a pretty good source
13 of bentonite material.

14 The next two that were produced
15 were the Gaertner special waste pad and the ore
16 pad. We have yet to have been able to track down
17 the source of that material.

18 What we can say is that the field
19 test permeability that we did met performance
20 criteria at the time that they were produced.
21 However, we have been yet to pin down the source
22 of the bentonite.

23 In the case of the Deilmann
24 special waste pad, again we haven't pinned down
25 the source of the bentonite, but certainly it

1 seems to be performing well as well.

2 It would appear that one specific
3 contract was let to do both the Gaertner pad and
4 the ore pad at the same time and those are the two
5 problematic ones. The issue, we think, is
6 probably related to desiccation, perhaps a
7 chemical effect, it may be dispersion of the
8 bentonite just because of the quality of the
9 material, that is the research that was alluded
10 to, but we have yet to pin down the actual source
11 of, if you will, the reduced -- or the increased
12 permeability of the bentonite.

13 What I can say is that when they
14 were constructed they met design criteria. What
15 we do have is two out of the four that no longer
16 meet that criteria. Fortunately for us, one we
17 have replaced and the other one the long-term plan
18 is to basically take that material and use it as a
19 diluent.

20 As far as capturing the leachate
21 from that, as has been indicated in the past,
22 nickel is the main issue and we have probably got
23 the flow path between the Gaertner special waste
24 pad and the pits as already defined. What we will
25 require is that that will eventually have to purge

1 itself out because it is a pretty mobile
2 parameter.

3 MEMBER BARNES: But that amount of
4 bentonite is a substantial amount, presumably, for
5 the area, so you wouldn't have a record? You are
6 shipping this in and you have no record of where
7 the stuff comes from.

8 MR. JARRELL: No. What we do have
9 is we have the field tests. It is a question of
10 what we asked the contractor to provide. What we
11 have is evidence that it met criteria, but we
12 can't actually determine the source of the
13 material. We can in the first one, which was the
14 original construction, which was Wyoming
15 bentonite.

16 Our suspicion is this may be a
17 lower quality bentonite.

18 MEMBER BARNES: In part of the
19 documentation you indicate that about a metre of
20 contaminated soil would have to be excavated, I
21 guess, under lining. Why do you think it is just
22 a metre?

23 MR. JARRELL: Just drill programs
24 we have done to date, plus a general view that the
25 arsenic, the radium, certainly they are well

1 retarded by the sands.

2 The surprise to me perhaps is the
3 fact that the uranium has been retarded as well to
4 the extent that it has been, but that is basically
5 based on drill program results.

6 MEMBER BARNES: Could I come to
7 the crib well.

8 Again, why do you think that slope
9 failure took place?

10 MR. JARRELL: We built it up too
11 high relative to the water level was the core
12 issue.

13 We had the debate after it had
14 failed whether we had to replace it, because the
15 thinking was that we were going to have a fairly
16 permeable chunk of one million cubic metres of
17 nickel rich waste rock, and then the debate was:
18 Do we have to replace this crib well in order to
19 provide some pump and treat in order to sort of
20 flush the pore water, if you will, as quickly as
21 we could.

22 What we found in the drill program
23 that we undertook earlier this year is that
24 actually the permeability of that pile is quite a
25 bit less than we thought, but what surprised us

1 perhaps the most was that there are areas of that
2 pile that are still not fully saturated even
3 though they are under water. So we came to the
4 conclusion that probably replacing the crib well
5 probably would not be an effective way to sort of
6 pump and treat.

7 So our thinking on that has
8 essentially sort of changed from sort of flushing
9 the pore water of the waste rock to more of the
10 case that it is going to be a very, very slow
11 flux, diffusion controlled from the waste rock
12 into the pit.

13 Now, we have to do modelling to
14 prove that point, but that is sort of in the
15 direction we are heading.

16 MEMBER BARNES: But how deep did
17 the crib well go, roughly?

18 MR. JARRELL: I would be guessing.
19 It is probably in the range of 40 metres I would
20 think.

21 Bill, maybe you could -- guessing.
22 I'm just guessing. I think it is in that range.
23 It was to the bottom of the pit, I just can't
24 remember how deep the pit was.

25 MEMBER BARNES: It didn't sheer

1 off because you put this coarse material right
2 against it?

3 MR. JARRELL: That could be part
4 of it. I mean, there was an issue with just the
5 fact that it wasn't -- what we were trying to do
6 is build it up as the thing was flooding and we
7 got a little ahead of ourselves is what happened
8 here.

9 MEMBER BARNES: I find it strange
10 that you would essentially load tailings with very
11 coarse on top, right next to the crib well.

12 MR. JARRELL: Yes.

13 MEMBER BARNES: If you were trying
14 to get material to fail you would put something on
15 top of it. Right?

16 MR. JARRELL: Yes.

17 MEMBER BARNES: So knowing the
18 kind of material that you are putting in, and
19 knowing that the material hasn't become saturated,
20 again, don't you find it sort of curious in terms
21 of your overall modelling here?

22 MR. JARRELL: Well, we certainly
23 came to the conclusion we have to remodel this,
24 because obviously if it is not as permeable as it
25 is it is not affecting the surrounding water to

1 the same extent. What we haven't done yet is we
2 haven't done that modelling.

3 MEMBER BARNES: But that is still
4 only since 1998. Is that right?

5 MR. JARRELL: That is correct,
6 yes.

7 MEMBER BARNES: So we are looking
8 at a pit that you are going to manage over decades
9 and you are saying this hasn't become saturated in
10 three to four years.

11 MR. JARRELL: Yes. But, on the
12 other hand, I guess my view on this matter is you
13 want to drive to one of two extremes, you either
14 want the thing isolated from the environment or
15 you want it well flushed in a short period of
16 time. I guess what I'm saying to you is I think
17 we are closer to that first end of the spectrum.

18 MEMBER BARNES: To CNSC staff, you
19 reported right at the end in this discharge that
20 you received information on it yesterday, the
21 problem?

22 Mr. McCabe, you reported on this.

23 MR. McCABE: Excuse me, on the one
24 filling? Is that what you are referring to?

25 MEMBER BARNES: That there was a

1 discharge where the pH was 4.8. Do you remember?

2 MR. McCABE: Yes.

3 MEMBER BARNES: Did I get the
4 impression that there was only a small amount
5 actually released --

6 MR. McCABE: Yes. I think the --

7 MEMBER BARNES: -- or did the
8 whole amount get flushed out?

9 MR. McCABE: No. The ponds
10 are -- I believe, about 40 per cent of the pond,
11 about 2,000 litres was discharged at this 4.8 pH
12 when it was detected and it was stopped, as I
13 understand it. I just have a preliminary report
14 in front of me.

15 MEMBER BARNES: Does that
16 represent a significant event or less than
17 significant event?

18 MR. McCABE: Well, being outside
19 of a limit is considered a concern to us, yes, and
20 that is why we reported it at this time.

21 MEMBER BARNES: Okay.

22 THE CHAIRPERSON: I have a
23 question for the licensee. It is with regards to
24 the staff recommendation was to look at licence
25 lengths that really looked at McArthur and Key

1 Lake in sync, if I can put it that way, and you
2 didn't comment on that.

3 Are there any thoughts, from your
4 point of view, on whether those two licence
5 lengths would be better linked or separated? Any
6 thoughts about that?

7 MR. JARRELL: I think our view is
8 that they are appropriately linked because
9 obviously a production increase in one would
10 equate to the other as well. So I think that the
11 two have to -- the two should be in the same
12 licensing period, yes.

13 THE CHAIRPERSON: And a question
14 to staff. There are 27 and 28 months. Could you
15 give us the reasoning behind the length that is
16 more than 24 I suppose?

17 MR. PEREIRA: It is Ken Pereira.

18 Well, the reason is -- 27 and 28,
19 the reason is to bring them on the same date.

20 Going from 24 to a bit longer is
21 to stagger the licence renewal dates because we
22 happen to have four Day 1 hearings today, four
23 hearings for mines today, to stagger them a bit so
24 that we don't end up with this situation again in
25 two years' time.

1 THE CHAIRPERSON: Are there any
2 views by the licensee? Three of those four are
3 yours. Would you prefer that they be together or
4 is it more an issue of McArthur and Key at the
5 same time? Do you have a view about --

6 MR. JARRELL: Yes. Yes, I do.

7 Having gone through the process, I
8 would say initially when I started this I liked
9 the idea of them all being together insofar as we
10 have a common approach at three different
11 minesites so it produces something that I think
12 both of us desire, which is basically a common
13 approach to three different minesites. So you get
14 a lot of information sharing and certainly a
15 shared goal that we have with you.

16 As I actually prepared for three
17 together, I realized it is quite an intense
18 experience so I think a little bit of break
19 between them is appropriate.

20 Probably there is a lot of merit
21 to have McArthur and Key together, just because of
22 their similarity, whereas Rabbit is probably a bit
23 separate.

24 Our request for extended licences
25 is largely based on what you heard initially the

1 very first thing this morning, which is a view
2 that sort of a 9-month process for a 24-month
3 licence is a rather extensive amount of work and
4 we -- it is just obviously a debateable point and
5 we certainly understand the need to come back to
6 the Commission on a regular basis for reports.

7 What we wonder out loud I suppose
8 is whether an appropriate thing is to try to
9 delink the formal relicensing from some of the
10 reporting requirements to the Commission. That is
11 what we have been proposing, because we find that
12 probably -- it is not immediately obvious to us
13 that the natural frequency of updating facility
14 licensing manuals, for example, is every two
15 years.

16 For example, you heard that we
17 revise the decommissioning plans every five years.
18 We do state of environment reports every five
19 years. So I think what we are looking for really
20 is a little consideration to take some of the sort
21 of intensity that is involved with sort of the
22 routine relicensing and sort of separate that from
23 other things, which is why we perhaps have a
24 divergent view from the staff.

25 THE CHAIRPERSON: Thank you.

1 And the Commission has listened
2 very, very carefully to those comments and
3 continues to look at the issue of licensing length
4 in a more general context than that as well.

5 So thank you very much.

6 A further question, Dr. Giroux?

7 MEMBER GIROUX: Just a follow-up
8 on this last statement from Cameco.

9 How much difference do you
10 envision there might be between an interim report
11 after two years, let's say, which might have some
12 depth, and an application for a licence?

13 MR. JARRELL: For myself
14 personally, probably not a lot, but in terms of
15 the background work of sort of updating licensing
16 manuals and that I would say it would be quite a
17 bit of difference.

18 I guess my first vision of this
19 would be sort of an open forum with a report in
20 advance to sort of discuss issues like we have
21 discussed today: What are the current issues
22 before us? What are we doing about them? What
23 are our action plans? Just sort of focus on sort
24 of the key issues that have come up over sort of a
25 mid-term review, if you will.

1 So what we are looking for is just
2 sort of segregating out some sort of the more
3 formal sort of redo manuals, that kind of work.
4 That is what we are looking for.

5 THE CHAIRPERSON: Dr. Barnes.

6 MEMBER BARNES: Just one final
7 thing I forgot.

8 You also reported a slope failure
9 which you attributed to wave action on some of the
10 pits or one of the pits?

11 MR. JARRELL: Yes.

12 MEMBER BARNES: Is this a serious
13 issue and do you think it is going to get more
14 serious as time goes on or is it just very minor?

15 MR. JARRELL: Well, actually there
16 is two issues there. There is an issue that I
17 mentioned in my written submission about
18 maintaining a proper pore water pressure as we
19 reflood this thing. So this concern about sort
20 of, if you will, large scale stability just as we
21 reflood these. We obviously have to keep the two
22 pits in sort of parallel to avoid sort of
23 pressure, hydraulic pressure on the pits. So we
24 are monitoring that very closely.

25 So that is sort of the real core

1 geotechnical issue, is when we reflood to make
2 sure that we don't pressurize that wall.

3 What we also mentioned, though,
4 was that because of sort of the friable nature of
5 this material we also see some wave action which
6 is just sort of -- I would say it is a pretty
7 minor thing, but we obviously want to watch it if
8 we had big storms in that thing because we don't
9 want to start washing away a lot of the pit wall
10 because it is such friable material.

11 In fact, we are currently thinking
12 of putting in some sort of stop structures or
13 something like that just to disperse the energy of
14 the waves. We don't think it is a large issue, it
15 is just more something that we just want to make
16 sure that we don't lose a lot of storage space.

17 It should be borne in mind that
18 there is no occupancy in this pit as well right
19 now.

20 THE CHAIRPERSON: Well, thank you
21 very much.

22 MR. JACK: And that, ladies and
23 gentlemen, brings us to the end of Hearing Day 1
24 on Cameco Corporation's application for the Key
25 Lake operation licence renewal.

1 This hearing will continue on the
2 4th of October here in the same place.

3 According to the Commission's
4 Rules of Procedure, the Applicant is required to
5 be present. Commission staff also will be
6 present. The public is invited to participate
7 either by oral presentation or written submission
8 on that day.

9 Persons who wish to intervene on
10 October 4th must file submissions by
11 September 4th, 2001.

12 I would thank all participants for
13 having participated today and the hearing is now
14 adjourned to October 4th.

15 Thank you.

16 THE CHAIRPERSON: The Commission
17 is going to take 10 minutes to allow for the
18 change of the Applicants.

19 La Commission va prendre dix
20 minutes pour changer le demandeur.

21 Merci.

22 --- Upon recessing at 4:40 p.m.

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