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Atomic Energy of Canada Limited:

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Application for the renewal of the

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Nuclear Substance Processing

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Facility Operating Licence for the

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New Processing Facility at the

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Chalk River Laboratories

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05-H21.1 / 95-H21.1A

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Oral presentation by

11

Atomic Energy of

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Canada Limited

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DR. TORGERSON: Thank you. Good afternoon,

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Madam Chair and Members of the Commission and thank you

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for the opportunity to make some introductory remarks

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associated with our licence renewal application for the

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New Processing Facility.

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I would like to reiterate to the Commission

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that AECL and its employees are committed to completing

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the Dedicated Isotope Facilities. We have strengthened

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our team and senior management oversight to ensure safe

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and high quality operation. We are focussed on meeting

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all criteria relating to health, safety, security, the

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environment and Canada's international obligations and we

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are committed to resolving technical issues, completing

1 active commissioning and processing isotope targets during
2 the next licensing period.

3 I will now turn our presentation over to
4 Dr. Ken Hedges. Thank you.

5 **DR. HEDGES:** Good afternoon, Madam Chair
6 and Members of the Commission. For the record, I'm Ken
7 Hedges, Vice-President, Dedicated Isotope Facilities.

8 The Dedicated Isotope Facilities consist of
9 the MAPLE 1 and 2 reactors and the New Processing
10 Facility.

11 I am pleased to update the Commission on
12 the following topics: measures we have taken to
13 strengthen our team and our senior management oversight;
14 the progress we've made on our Performance Improvement
15 Plan; the performance of the New Processing Facility
16 during the current licence period; plan for commissioning
17 and operation of the next two-year licence period.

18 As mentioned this morning during the MAPLE
19 presentation, the Dedicated Isotope Facilities'
20 organization manages all aspects of DIF operations and the
21 remaining project design and commissioning work.

22 Paul Lafrenière, the DIF General Manager,
23 is responsible for ensuring completion of all operations-
24 related activities in full compliance with AECL's
25 operations and CNSC requirements.

1 Reporting to Paul is the DIF Production
2 Manager who has a combined responsibility for NPF and the
3 MAPLE reactors. This ensures a consistent approach for
4 the safe operation or maintenance and compliance with all
5 applicable licences, permits, laws, regulations, policies
6 and procedures.

7 The new Project Engineering, Procurement
8 and Commissioning Team, which supports the completion of
9 commissioning and progress to "in service" was described
10 in my presentation this morning.

11 Within this team, a new DIF commissioning
12 manager has been appointed to ensure that NPF meets its
13 design intent and all the safety and commissioning and
14 completion assurance requirements.

15 Operations management of NPF has been
16 consolidated with MAPLE through the appointment of the DIF
17 Facility Manager. The DIF Facility Manager is responsible
18 for safe and effective operation of NPF and the MAPLE
19 reactors within the applicable operating limits and
20 conditions.

21 NPF staffing has been increased to improve
22 operations performance. For example, 14 new employees
23 have been added to the Hot Cell operations and four new
24 NPF shift supervisors have been recruited.

25 The strength in facility management and

1 oversight and operational risk review processes for MAPLE
2 are also being applied to NPF. This broad review of
3 planning and implementation of all work and operations
4 ensures management oversight and operational risk review
5 is done in an integrated manner. The integrated team
6 ensures that safety and quality practices are consistently
7 enforced.

8 We are committed to operating the New
9 Processing Facility to ensure safe, reliable and
10 environmentally sound performance. Strategy adopted by
11 DIF operations for upgrading the overall performance of
12 MAPLE reactors, people processes and procedures is also
13 applied to NPF. Details of this strategy were presented
14 this morning in the MAPLE presentation.

15 We have responded to the lessons learned
16 from the unplanned events during the current licence
17 period. Steps taken to improve operating performance of
18 MAPLE are also applicable to NPF.

19 As part of our continuous improvement
20 process, we have enhanced our public consultation
21 activities. Updates of the AECL website to improve public
22 access to information on NPF are in progress. Regular
23 meetings are held with CNSC staff with regard to NPF
24 issues and progress.

25 We have regular communication with our AECL

1 staff involved with the DIF organization where we discuss
2 the importance of safe and reliable operation of the
3 Dedicated Isotope Facilities.

4 Because there was no radioactivity other
5 than fixed sources used in NPF, there were no airborne or
6 liquid radioactive releases from NPF during the current
7 licensing period and worker doses are small.

8 There have been no fires in NPF and the
9 annual third-party reviews have been conducted to verify
10 compliance with the inspection requirements of the
11 National Fire Code and the inspection and audit
12 requirements of the National Fire Protection Association
13 standard, NFPA 801.

14 No lost-time accidents occurred in NPF
15 during the current licence period.

16 For the MAPLE reactors, the CNSC staff
17 rated AECL programs and their implementation in seven
18 safety areas. In the presentation heard this morning, we
19 commented on the work to improve our performance in the
20 implementation aspects of operating performance and
21 performance assurance for the MAPLE reactors. The
22 applicable improvements have been implemented on NPF.

23 To improve our performance in event
24 monitoring in NPF, we will implement the same procedure as
25 used for the MAPLE reactors.

1 To complete the implementation of the event
2 reporting procedure, the OLC's document for NPF will be
3 revised.

4 The NPF operations and project staff are
5 currently resolving issues found during the non-nuclear
6 commissioning and the NPF inactive integrated testing
7 work.

8 Work continues on operational readiness for
9 restart of active commissioning.

10 During the current licence period, a number
11 of performance issues associated with the waste management
12 systems were resolved. An extensive test campaign has
13 been defined by the design of the waste management
14 systems. This test campaign will be conducted over the
15 next few months to further evaluate the production
16 performance of these systems.

17 A permanent connection to the closed loop
18 cooling system to the fire water system has been made to
19 facilitate back-up cooling. A small diesel generator is
20 to provide back-up power to the closed loop cooling system
21 and an uninterruptible power supply has been installed.
22 Commissioning of the small diesel will be performed after
23 approval is obtained from CNSC staff.

24 HAZOP and operability studies for the NPF
25 have been updated to reflect the status of the facility as

1 of spring 2005. Results of the HAZOP studies are being
2 used to ensure a robust design and safe operation of NPF.
3 Recommendations are being reviewed to define a plan for
4 implementing improvements.

5 At this time, DIF operations and the
6 project team are completing all the operational readiness
7 work and the approvals prior to resuming active
8 commissioning.

9 For the active commissioning of NPF, we
10 plan to operate MAPLE to provide irradiated targets.

11 The next steps in the operating plan for
12 NPF are: complete Phase B commissioning -- that is active
13 commissioning -- using the irradiated targets for MAPLE 1
14 and progress to "in service".

15 In summary, Madam Chair, Members of the
16 Commission, I believe that the remaining issues are being
17 appropriately managed and on their way to being resolved.
18 We have strengthened our team and senior management
19 oversight. We have established and are committed to a
20 Comprehensive Improvement Program that supports safe,
21 high-quality operation and draws on lessons learned by
22 others in the industry. We are focused on meeting all the
23 regulatory criteria related to health, safety, security,
24 the environment and Canada's international obligations.
25 We are committed to resolving technical issues, completing

1 active commissioning and processing isotope targets during
2 the next licence period.

3 Our plan is to process irradiated targets
4 at MAPLE 1 reactor. Our operating plan for the next two
5 years will allow us to complete the commissioning of NPF
6 and establish safe, reliable operations.

7 This ends my presentation in support of
8 AECL's application for a two-year licence for the New
9 Processing Facility. We would be happy to answer
10 questions.

11 **THE CHAIRPERSON:** Thank you.

12 I would like to then move to the
13 presentation by CNSC staff as outlined in CMD 05-H21, and
14 I will turn to Mr. Barclay Howden, Director General of the
15 Directorate of Nuclear Cycle and Facilities Regulation.

16 Mr. Howden, you have the floor.

17

18 **05-H21**

19 **Oral presentation by**

20 **CNSC staff**

21 **MR. HOWDEN:** Thank you. Madam Chair,
22 Members of the Commission. For the record, my name is
23 Barclay Howden. With me today are Mr. Greg Lamarre,
24 Director of the Research Facilities Division; Mr. Étienne
25 Langlois, Project Officer for the New Processing Facility,

1 and the rest of the CNSC licensing team for this facility.

2 CNSC staff has reviewed the application
3 from AECL to renew the operating licence of the New
4 Processing Facility at the Chalk River Laboratories and
5 has formed a position on this application and put forward
6 recommendations for your consideration.

7 I will now turn over the presentation to
8 Mr. Langlois who will outline these for you.

9 Thank you.

10 **MR. LANGLOIS:** For the record, my name is
11 Étienne Langlois. Atomic Energy of Canada Limited has
12 applied for the renewal of a licence to operate the New
13 Processing Facility at the Chalk River Laboratories.

14 CNSC staff has prepared CMD 05-H21, which
15 contains recommendations for the Commission on this
16 application.

17 I will now make a presentation that
18 provides a brief overview of this Application and of CNSC
19 staff's recommendations. The presentation would provide an
20 overview of AECL's applications, the activities planned by
21 AECL for the required license period, CNSC's staff's
22 overall conclusions and CNSC staff's recommendations to
23 the Commission.

24 Starting with AECL's Application, the
25 operating licence for the new processing facility at the

1 Chalk River Laboratories expires on November 30th, 2005.
2 AECL has applied for renewal of this operating licence for
3 the period of 24 months ending November 30th, 2007. This
4 renewal length would allow the NPF licence to remain
5 synchronized with the MAPLE reactors licence.

6 The submission of the new Processing
7 Facility Licence Renewal Application by AECL was timely
8 and the information contained in the Application meets the
9 relevant requirements.

10 AECL is planning to complete the following
11 during the period of their requested licence: Complete
12 the ongoing and active work on various NPF systems;
13 perform active commissioning of the facility and have the
14 facility declared in service and start routing production
15 of medical radio isotopes.

16 Conditions in the proposed licence
17 introduce dual points between these activities, thus
18 providing regulatory control by ensuring that the issues
19 still open when the whole point is released do not pose
20 unreasonable risk.

21 The following slides will provide a summary
22 of AECL's planned activities for the requested licence
23 period and CNSC staff's conclusions.

24 First, regarding the completion of the
25 ongoing and active work, inactive commissioning of the

1 NPF; that is, commissioning of the NPF systems without
2 using radioactive material, was performed by AECL in 2000
3 and AECL provided in 2002 an inactive commissioning
4 completion assurance.

5 A series of tests called the NPF Inactive
6 Integrating Testing, or NIIT for short, was done in 2003
7 and produced a number of findings. AECL is currently
8 still performing inactive work on NPF systems to address
9 these findings and to improve the operability of the
10 facility. AECL plans to complete this work during the
11 period of the requested licence.

12 Since AECL is still completing the non-
13 active work the radiological risks currently associated
14 with the New Processing Facility are negligible and the
15 doses to workers and to the public, as well as the
16 releases to the environment, are all well below regulatory
17 limits.

18 Next is the active commissioning of the
19 NPF. Approval to start active commissioning of the NPF
20 was given in 2003 following AECL's inactive commissioning
21 completion assurance. This approval was conditional on
22 the completion of a number of items. These were the
23 activities for which an agreement had reached that they
24 would resolve their various issues remaining prior to
25 allowing the start of active commissioning but which has

1 not yet been completed.

2 Verification of the completion of these
3 conditions will be done once AECL is ready to start active
4 commissioning of the NPF. It should also be remembered
5 that the start of NPF active commissioning depends on a
6 MAPLE reactor operating at powers sufficiently high to
7 irradiate targets for processing the NPF. AECL plans to
8 perform this active phase of NPF commissioning during the
9 period of the requested licence.

10 Finally, during the period of the requested
11 licence AECL also plans to have the necessary work to have
12 the NPF declared in service and to start reaching
13 production of medical radio isotopes. CNSC staff does
14 expect to be, at the time of the anticipated 2007 licence
15 renewal, in a position to report on the operating
16 performance of the New Processing Facility under
17 conditions more representative of the intended actual
18 operation of the facility.

19 Before proceeding to CNSC staff conclusions
20 it should be noted at this point that pursuant to the
21 Commission's records of proceedings, including reasons for
22 adjournment in the matter of the financial guarantee for
23 the decommissioning of Atomic AECL's Chalk River
24 Laboratories site, CNSC staff intends to add, prior to the
25 Day Two hearing, the following condition to the proposed

1 licence attached to CMD 05-H21 for the submission of a
2 comprehensive preliminary decommissioning plan of the
3 Chalk River site.

4 Now, CNSC staff's overall conclusions
5 concerning AECL's Application. This table summarizes CNSC
6 staff's assessments relevant to NPF for the various safety
7 areas. Note that most of these are covered by Chalk River
8 Laboratories site-wide programs, for which the assessment
9 is taken from the CNSC midterm report or by DIF Programs
10 shared with the MAPLE reactors.

11 Finally, CNSC staff has concluded that the
12 AECL is qualified to carry on the licenced activities and
13 that it is making adequate provisions for the protection
14 of the environment, health and safety, security and
15 Canada's international obligations, and also that the
16 *Canadian Environmental Assessment Act* does not require an
17 environmental assessment to be performed for this licence
18 renewal.

19 CNSC staff does recommend that the
20 Commission confirm and concur with CNSC staff's
21 conclusions and approve the proposed licence renewing the
22 NPF Operating Licence for a 24-month period ending
23 November 30th, 2007.

24 This concludes my presentation. I will now
25 return the floor to Mr. Howden.

1 **MR. HOWDEN:** Thank you.

2 Madam Chair, that concludes our
3 presentation. Staff is ready to respond to questions.
4 Thank you.

5 **THE CHAIRPERSON:** Thank you very much, Mr.
6 Howden.

7 We will now open the floor for questioning.
8 We will start with Mr. Graham.

9 **MEMBER GRAHAM:** Thank you, Madam Chair.

10 I think we extensively covered a lot of
11 areas this morning, but the commissioning -- to get this
12 clear in my mind -- and I guess this would be to CNSC
13 staff first -- we have already given approval to start
14 commissioning two years ago. Has anything changed? Is
15 there anything that has to be brought up to date that
16 isn't -- that would say things that were completed at that
17 time, like training of staff and so on, that may be
18 obsolete at this time?

19 **MR. LAMARRE:** Greg Lamarre, for the record.

20 The approval that was given to commence
21 active commissioning back in 2003 was conditional. There
22 were a number of conditions that needed to be met, some of
23 which AECL is still in the process of addressing. Before
24 commencement of active commissioning can begin for AECL
25 they have to satisfy staff that those conditions, as well

1 as the prerequisites as outlined in CMD 05-H21 have been
2 met.

3 So to answer your question, we will be
4 satisfied when the prerequisites, as outlined in CMD 05-
5 H21, are met and accepted by staff that AECL is indeed
6 ready to commence active commissioning.

7 **MEMBER GRAHAM:** Then my question to AECL is
8 do you have a time table of meeting those prerequisites
9 that were set out two years ago?

10 **MR. HEDGES:** For the record, Ken Hedges.

11 Yes, we have a timetable for meeting those
12 requirements and taking the New Processing Facility into
13 service. Those dates span and are encompassed by the two
14 year licence period. We anticipate that we are
15 approximately 12 months away from the start of active
16 commissioning.

17 As we need to ensure ourselves that we meet
18 all of our standards for operational readiness and all of
19 the CNSC's requirements there are a number of changes, as
20 I mentioned in my presentation, related to the waste
21 management systems which are called the Calcination System
22 and Cementation System, and we wish to ensure ourselves
23 that those systems will function adequately before we use
24 active material in the Hot Cells.

25 So we have a good schedule and we have, as

1 I mentioned, an intensive commissioning program which will
2 be starting in approximately one month.

3 **MEMBER GRAHAM:** Do you have specific
4 timetable dates for each prerequisite that is issued so
5 that they can be tracked so that you do meet the 12-month
6 target that you were looking at or proposing?

7 **MR. HEDGES:** For the record, I will ask
8 Victor Snell to respond to that, discuss our licensing
9 commitments database.

10 **MR. SNELL:** Victor Snell, for the record.
11 I may actually ask Paul Lafrenière to elaborate on this.
12 I think there are two aspects to the question. One is the
13 licensing commitments database which I am happy to
14 address.

15 With the reorganization that Dr. Hedges
16 spoke about we had a major effort underway at both sites
17 to ensure we had a robust licensing commitments database.
18 As you know, we are still in partly project and partly
19 operating mode. There is still a project component to
20 both NPF and MAPLE. And so between myself and my
21 counterparts at Chalk River who are sitting behind me, we
22 have essentially reconstituted our licensing action
23 database and we have shared that with CNSC staff and have
24 reached agreement on it so that I think in terms of
25 commitments made to the CNSC staff and to the Commission

1 we have quite a solid handle on that at both sites.
2 That's been a major effort of ours since Dr. Hedges took
3 over two years ago -- sorry -- a year ago.

4 In terms of the other aspect, in terms of
5 planning for the commissioning of NPF, I think if I am
6 correct, and I will stand to be corrected on this, that
7 Mr. Lafrenière is a little more competent to speak about
8 that than I am.

9 Is that okay, Paul?

10 **MR. LAFRIENIERE:** Paul Lafrenière, for the
11 record.

12 Very briefly, if we look at the status of
13 People, Process, Procedures and Plant just very briefly,
14 on the people side we have the authorized staff and we
15 just recently hired another -- roughly 14 people. So we
16 are gearing up again and we are currently hiring
17 supervisors.

18 On the document side we have roughly 4,600
19 documents in the baseline for NPF. They are 64 per cent
20 current and/or complete. So that is ongoing.

21 On the corrective action side we are
22 roughly at about 150 corrective actions overall on NPF and
23 that will be worked down over the next three, four, five
24 months.

25 **MEMBER GRAHAM:** Would CNSC staff care to

1 comment on the commitments -- do you confirm what has been
2 given to us today?

3 **(SHORT PAUSE)**

4 **MR. LAMARRE:** Greg Lamarre, for the record.

5 Staff has not been provided with an up-to-
6 date detailed schedule on all those commitments that need
7 to be addressed in order for them to go to active
8 commissioning and then beyond. So we will be following up
9 with AECL on those issues.

10 As per the dates that Dr. Snell alluded to
11 in terms of the progress as they go forward, those sort of
12 macro-level dates have been shared with staff but, once
13 again, I can't really comment on a more detailed timetable
14 that has not been provided to us recently.

15 **MEMBER GRAHAM:** My question, then, is it
16 realistic that the 150 corrective actions can be completed
17 in that timeframe?

18 **(SHORT PAUSE)**

19 **MR. LANGLOIS:** Etienne Langlois, for the
20 record. Even though there are a number of issues with the
21 NPF, I believe that most of these can be fairly regularly
22 addressed given their adequate resources.

23 The major obstacle that can still be
24 present is operation of the MAPLE reactors at powers
25 adequate for radiating targets. That is dependent, as you

1 have heard this morning, on a resolution of the PCR issue
2 for which any path forward is purely conjectural at this
3 point.

4 **MEMBER GRAHAM:** Thank you, Madam Chair.

5 Another question I have to AECL, in reading
6 the documents there has to be completion of actions
7 resulting from active ventilation system reliability and
8 there also has to be outstanding work that is required
9 prior to introduction of active materials into the MDF and
10 then there is new work that has come to light. All of
11 these items -- you have a critical path, do you, of
12 getting these all completed by the proposed timeframe that
13 you are mentioning?

14 **MR. HEDGES:** Yes, this sort of comes back
15 to the question that was asked this morning as well on
16 MAPLE about the realism of the schedule. We have a
17 detailed, high level -- we call it Level 1 Schedule and we
18 have lower level schedules going down to Level 4 which are
19 quite detailed and have several thousand activities.

20 At the request of the government we were
21 asked to subject that schedule to a third party review.
22 The third party review has been completed although the
23 report has not been written and it has not been
24 communicated to ourselves or to MDS Nordion, but the
25 feedback at the close of our meeting from the external

1 review which was done by a project manager from the U.S.
2 was that everything up to the point where we do the tests
3 for PCR at 5 megawatts is solid. After that the schedule
4 is solid if the tests define the solution to PCR and hence
5 allow us to proceed. They concluded there was a large
6 degree of uncertainty in the schedule since we did not
7 know how we were going to solve the PCR solution.

8 So the answer is, as long as MAPLE can move
9 ahead along the time scale and as long as we can fix the
10 PCR in the time slots we have allocated, we believe we
11 have a very solid schedule which has been the subject of
12 third party review.

13 **MEMBER GRAHAM:** One further question, Madam
14 Chair, and that's with regard to recruiting of staff.

15 You have indicated in your slides that 14
16 new staff have been -- 12 in the Hot Cell, I believe, or
17 14 in the Hot Cell and 4 shift supervisors in its ongoing
18 hiring of staff, can you assure the Commissioner, ensure
19 us that the proper training -- because there seems to be a
20 lot of pressure into trying to get everything up and going
21 within a timeframe since it dates back several years and
22 the pressure on -- can you assure us that the training,
23 proper training of staff will not be compromised in any
24 way in order to assure us that staff will, number one,
25 will be trained and that the health and safety of the

1 people within this part of your process is going to be
2 protected?

3 **MR. HEDGES:** I can assure you that they
4 will fully trained and there will be no compromises. The
5 staff are mostly required for when we get into active
6 commissioning, which is a year from now, and that is the
7 reason we just recently hired them so there is plenty of
8 time for training.

9 Paul Lafrenière can provide further
10 details.

11 **MR. LAFRENIERE:** Paul Lafrenière, for the
12 record.

13 The training period, as history shows, is
14 eight months or 10 months at the outside. So we have
15 plenty of time here.

16 **MEMBER GRAHAM:** Would CNSC staff care to
17 comment if they agree with those comments?

18 **MR. LAMARRE:** Greg Lamarre, for the record.
19 Yes, we agree with those comments.

20 **MEMBER GRAHAM:** Just one other question,
21 you agree with the comments with regard to the eight month
22 timeframe of training but is there an adequate number of
23 staff there now to operate the Hot Cell and the other
24 parts of this facility?

25 **MR. LANGLOIS:** It should be borne in mind

1 that at this point the NPF is not operated for production.
2 They are still working on systems. There are some Hot
3 Cells, I believe, that aren't even open yet still. So the
4 Hot Cell technicians are not required for operations at
5 this stage. Whether there will be adequate Hot Cell
6 technicians for actual operation of the NPF will be
7 verified at the time that the AECL indicates that they are
8 ready to go to active commissioning when the CNSC staff
9 will perform a verification of AECL's operational
10 readiness verification activities.

11 **THE CHAIRPERSON:** Dr. Dosman.

12 **MEMBER DOSMAN:** Thank you, Madam Chair.

13 A number of points have been covered by the
14 previous questioning. I would just like to clarify, I
15 take it that the NPF is currently not extracting isotopes
16 from targets from any irradiated sources. Is that
17 correct?

18 May I ask AECL?

19 **MR. HEDGES:** For the record, Ken Hedges.

20 We have -- there is a path of irradiating
21 targets through NRU but that's not actively being pursued
22 at this time. We could -- we did do test targets in NRU
23 previously to check things out but our reference plan is
24 to take them through MAPLE.

25 **MEMBER DOSMAN:** Well, thank you. Where I'm

1 coming from there must be some radiological activity going
2 on. At least in the report CMD 05-H21 from CNSC staff, it
3 refers to the annual whole-body doses that NPF staff
4 average 0.41 milliSieverts. So is that background or are
5 they doing some radiological work? There must be some
6 activity going on in the facility. I just wonder if you
7 could help me out on that point.

8 **MR. LAFRENIERE:** Paul Lafrenière for the
9 record.

10 Yes, there is some minor levels but they
11 are well within the requirements of the Radiation
12 Protection Guidelines. Because the facility is located
13 around the reactors you will have some background work
14 that is remnant. But these levels are essentially
15 background for all practical purposes.

16 **MEMBER DOSMAN:** So I take it that -- and I
17 think -- really, I'm sorry if I'm duplicating a question
18 that Mr. Graham has asked, but I take it then that there's
19 no radiological health risks to workers at the present
20 time and if there is, it's all being handled appropriately
21 even though the facility is not commissioned.

22 **MR. LAFRENIERE:** Paul Lafrenière for the
23 record. Yes.

24 **MEMBER DOSMAN:** Just another point and that
25 is on the question of the backup diesel generator. It's a

1 bit of déjà vu and I'm going from memory, but it seems to
2 me that -- was this an issue on the previous licence and I
3 take it that without MAPLE being on, that perhaps the full
4 activity of commissioning the new processing facility
5 hasn't taken place and perhaps we're dealing with some of
6 the same issues that we dealt with in the previous
7 license. Is that a correct thought of mine?

8 **MR. HEDGES:** For the record, Ken Hedges.

9 I'd like Albert Lee to comment on that or
10 Victor Snell.

11 **MR. LEE:** For the record, my name is Albert
12 Lee.

13 The issue about the installation of the
14 small diesel generator is an issue that had been raised
15 during the licence renewal in 2003. During the current
16 licence period the design work to specify the size of
17 diesel and the location of the diesel with respect to the
18 NPF building was completed; the work to procure the diesel
19 was completed; a fire hazard assessment study was done for
20 the diesel and for the impact of the location of the
21 diesel with respect to the adjacent buildings. That's
22 been completed. We also completed an independent fire
23 hazard assessment with the Human Resources Development
24 Canada Fire Engineering and Protection Services and we've
25 just recently completed addressing all of their comments

1 on the location of the diesel and the protective measures
2 for the diesel.

3 The last thing that remains to be done
4 before we can complete the inactive commissioning of the
5 diesel is to submit assurances to the CNSC staff of the
6 closure of the issues with Human Resources Development
7 Canada and seek their approval to load diesel fuel into
8 diesel and do the inactive testing.

9 **MEMBER DOSMAN:** Thank you for that
10 clarification. May I inquire to the appropriate person,
11 have all of the problems with the active ventilation
12 system been solved to protect the health of workers?

13 **MR. HEDGES:** For the record, Ken Hedges.
14 I'd like Lawrence Lupton to respond to that, please.

15 **MR. LUPTON:** For the record, Lawrence
16 Lupton.

17 Yes, the active ventilation system has
18 stabilized in terms of its performance. We changed the
19 reference leg for one of the -- as part of the system and
20 since then it has operated smoothly.

21 **MEMBER DOSMAN:** And just on Quality
22 Assurance which again is the final common pathway to safe
23 operation, how is the documentation coming for a full
24 implementation of the new processing facility?

25 **MR. LAFRENIERE:** Paul Lafrenière for the

1 record.

2 There are 4,600 documents in the complete
3 NPF baseline. Sixty-four (64) per cent are complete and
4 current as of today.

5 **MEMBER DOSMAN:** Thank you. And may I ask
6 CNSC staff to comment on their view as to the progress on
7 the documentation?

8 **MR. LAMARRE:** Greg Lamarre for the record.

9 We don't have any specific comments to make
10 in terms of document development. There have not been any
11 recent reviews carried out by staff directed to that
12 element. That being said, that's a prerequisite to have
13 that engineering document baseline in place prior to NPF
14 going to in-service. So if this licence is granted as
15 AECL goes towards active commissioning and then towards
16 in-service, staff will certainly be focusing on that
17 prerequisite.

18 **MEMBER DOSMAN:** Thank you.

19 **THE CHAIRPERSON:** Perhaps it might be
20 appropriate just if you agree, Dr. Dosman, just to ask
21 staff if they had any comments with regards to the diesel
22 generator or the ventilation system further to the
23 comments by the licensee.

24 **MEMBER DOSMAN:** Yes, thank you very kindly.
25 I appreciate that.

1 take any one of these but the Qualifications and Staff
2 Training Program, it's like two or three lines then a
3 series of bullets and to me most of the bullets don't say
4 very much. In other words, it's not certainly giving
5 myself as a commissioner or anyone from the public very
6 much substance on which to base a judgment. In part this
7 is because usually the latter part of it says, as it does
8 in this case, "The document supporting the program
9 objectives are as follows" and it lists various kinds of
10 manuals, records of training which are accessible to
11 staff. But again, it doesn't tell myself as a reader
12 whether those documents are adequate, comprehensive and so
13 on. Almost none of these categories indicate issues,
14 either issues or concerns.

15 So these are within a title called "Quality
16 Assurance" and I'm not assured by this. I don't see
17 really very much substance in the document, all right? It
18 may be that when one had all those various manuals and
19 documents you have that assurance, but I'm not assured by
20 this, the way that this document is put together.

21 And then if we go as another example in the
22 section that starts on page 20 and goes through to 24
23 which deals with licensing issues, the licensing issue is
24 in each case identified by a box, and those issues were
25 raised in two documents. You can see this at the top of

1 page 20, CMD 04-M28 which was issued in July, 2004 and
2 even one earlier than that, CMD 03-H4 which if you look in
3 the references is dated January 2003.

4 So these are two documents where various
5 issues were identified in January 2003 and July 2004 and
6 here we are in August 2005. Much of the text is simply
7 repeating these licensing issues, the items in the box.
8 And then if you look at the status of these -- and you can
9 just take the first two as an example -- the status of the
10 first one is:

11 "Operational Readiness Review.

12 Work activity plan will be issued and
13 completed prior to active
14 commissioning."

15 The same statement is in the Emergency
16 Operating Procedure, "...will be issued for use prior to
17 active commissioning."

18 Back up -- 5.1.4:

19 "The backup firewater-cooling test
20 will be performed prior to completion
21 of the Operational Readiness Review
22 Work Activity Plan."

23 And so on.

24 So as I read these licensing issues the
25 great majority of these, and I think there are seven in

1 that category "...confirmation for readiness for active
2 commissioning," about five of those are simply saying
3 "we'll do it before we commission," and there are two,
4 5.1.3 and 5.1.7, in which they actually do report some
5 progress, some specific progress. You can see that in
6 5.1.3:

7 "Five of the total eight
8 recommendations of the seismic
9 walkdown findings have been
10 completed."

11 That is the kind of information I think I
12 would have liked to have seen more of.

13 When we go to the approval for in-service
14 operation which starts in the middle of page 22, again the
15 licensing issues that were identified in those two
16 documents, particularly CMD 04-M28, there is almost
17 nothing in three of those and 5.2.2 has little substance
18 to it.

19 So these are issues that were identified in
20 2003 and 2004 for which we have several pages and again, I
21 just don't see any substance being reported to us. Now
22 again, it may be that CNSC staff know things behind the
23 background. I would just like to ask: Is this what a
24 Commission document should be in terms of -- in this case
25 AECL asking for a renewal for two years of an operating

1 licence when I really don't see the substance on which we
2 should be basing our decision really fleshed out in the
3 kind of detail that I would expect?

4 Am I being unreasonable in this
5 expectation?

6 (SHORT PAUSE)

7 **MR. LAMARRE:** Greg Lamarre, for the record.
8 Sorry for the delay.

9 Dr. Barnes brings up some interesting
10 issues in terms of what we are seeing in this document.
11 Perhaps what I can do is try to break up his comments into
12 a couple of different areas.

13 First of all, I see one of your comments
14 being that what you are seeing in AECL CMD, and perhaps in
15 our CMD, is somewhat indicative of what you have seen in
16 the past in the July 2004 and in the renewal CMD in 2003.

17 I think this is a very clear indication
18 that very limited progress has been made on NPF
19 commissioning during the course of the current licence.
20 Staff was aware of that. Staff is aware that AECL has
21 certainly shifted its focus and its resources to MAPLE
22 commissioning and that NPF commissioning was clearly put
23 on the backburner in view of trying to resolve some of the
24 MAPLE issues.

25 Now that being said, I would like to

1 separate commissioning progress and safe operation.

2 Staff is clearly of the opinion that safe
3 operation, albeit of a relatively inactive site, has been
4 maintained. And we have spelled that out in our CMD, and
5 I think in the slide presentation we clearly show that the
6 performance indicators against the key safety areas remain
7 acceptable for staff.

8 Regulatory control systems are in place and
9 many of the comments that you had, Dr. Barnes, about those
10 issues listed in AECL CMD are also in staff's CMD and are
11 clearly indicated prerequisites for AECL to move from
12 their current state to active commissioning and then, once
13 through active commissioning, into in-service.

14 So I would like to -- those are the points
15 I would like to make about the fact that we have not seen
16 a lot of progress on NPF commissioning. Nonetheless,
17 staff is satisfied that the facility is safe to operate
18 today and should be safe to operate during the period of
19 the proposed licence condition. And we have got very
20 direct regulatory control on this facility and on its
21 commissioning as we go forward.

22 **MEMBER BARNES:** It might have been helpful,
23 I think -- maybe I need to read it again, but it might
24 have been helpful to spell that out a little in both
25 documents clearly that there is really very little

1 activity here instead of it seems to me, pretending that
2 there is quite a lot of activity going on. Sorry, I just
3 find it unacceptable, to be honest. I am surprised that -
4 - but, anyway.

5 Another kind of example of a level of
6 statement which I find almost naive, if I may say so, and
7 that is the statement on page 1 and it is repeated on page
8 8, which is:

9 "AECL is taking actions to develop and
10 implement a comprehensive improvement
11 plan for DIF to achieve the
12 following."

13 You can see this at the bottom of page 1:

14 "clearly communicate accountabilities
15 for program requirements and for
16 execution of work; implement an
17 Operation Score Card to continuously
18 evaluate performance; implement a
19 Human Performance Improvement program
20 for Operations and Maintenance;
21 incorporate lessons learned from major
22 improvements in National Research
23 Universal (NRU) reactor processes."

24 It runs on to the top of the next page.

25 All of these are relatively sort of basic

1 components that you would sketch out in any plan like
2 this, but it is again lacking substance to me.

3 At the bottom of page 15 there is a plan
4 for the establishment of DIF systems performance
5 monitoring program. So the plan is as follows: (1)
6 develop a systems performance monitoring program; (2)
7 implement a systems performance monitoring program and,
8 (3) self-assessment of the systems performance monitoring
9 program within 12 to 18 months of implementation. This is
10 sort of all good stuff but, to me, there is no substance
11 behind these good words. And I find the whole document
12 really rather weak in substance on which we are supposed
13 to base a decision to renew a licence for two years.

14 So I just question whether staff should
15 really accept a document -- I am not sure if it is in the
16 process that staff accepts this document if it is provided
17 to the Commission, but it is on the basis of which staff
18 writes a report that we should look at in parallel.

19 So I think the Commission might want to
20 look at whether the quality of this sort of document is
21 adequate for the purpose for which it is submitted.

22 Thank you.

23 **THE CHAIRPERSON:** Yes, Dr. Hedges?

24 **MR. HEDGES:** For the record, Ken Hedges.

25 Let me make a couple of points, going back

1 to the first one about limited progress.

2 We had a number of issues around the new
3 processing facility identified back in 2003 and we
4 identified a number of additional issues that we had
5 around the waste management systems. And we have been
6 actively trying to fix those for the last two years.

7 What you are seeing is that the milestones
8 are related -- the progress is related to milestones. So
9 the fact that we haven't got to the stage where we are
10 ready to give an operational readiness declaration to the
11 CNSC staff that we are ready to go into active
12 commissioning means that we are not satisfied yet that we
13 have cleaned up all of these issues.

14 We have been working on them. We have
15 detailed schedules of them, but they are not being
16 presented regularly to the staff because the staff are
17 not, at this stage, concerned with the production
18 reliability of waste management systems. They are
19 concerned with safety.

20 So we have to get those things fixed up and
21 cleaned up before we start into active commissioning.

22 We have a detailed performance improvement
23 plan -- and I agree with what is written in section 3.2.14
24 is very high level, but as Paul Lafrenière described this
25 morning, we have a detailed plan.

1 It has 200 activities in. We started four
2 months ago. We're 25 per cent complete. We have a very
3 solid plan. We're very willing to share that with the
4 staff or the Commission on our details of our improvement
5 plan and I think that once that's tabled, then many of the
6 issues will disappear.

7 **THE CHAIRPERSON:** Dr. Barnes.

8 **MEMBER BARNES:** Could I ask you, Dr.
9 Hedges, to address on staff document pages 2 and 3? They
10 have the acceptance criteria. The one on page 2 is "The
11 acceptance criteria to confirm that the NPF is ready for
12 active commissioning as follows...", and then the one on
13 page 3, "The acceptance criteria for in-service operation
14 are as follows...". The two are not listed as tables.
15 They're in boxes. So one on two?

16 **MR. HEDGES:** For the record, Ken Hedges.

17 Yes, we have no issue with the acceptance
18 criteria. We believe we will complete all of those in the
19 timescale we have planned.

20 **MEMBER BARNES:** Within this two-year
21 period?

22 **MR. HEDGES:** Within this two-year period.
23 In fact, as I mentioned earlier, within the next one year
24 because that's when the -- when we want to start active
25 commissioning.

1 **MEMBER BARNES:** Okay. So you have no
2 problems with any of those bullets in those two boxes and
3 they will all be completed within the next 12 months
4 roughly?

5 **MR. HEDGES:** Correct.

6 **MEMBER BARNES:** Thank you.

7 **THE CHAIRPERSON:** Perhaps I could just --
8 specifically in reference to Dr. Barnes' comments, I think
9 that if there is an understanding that this will be
10 completed within the period of the licence, we are
11 licensing a facility to do certain things within the next
12 two-year period. So if it would be possible before Day
13 Two to pull down the various types of commitments made
14 with status under the licensing issues, I think starting
15 at page 20 if I'm not wrong, and referencing pages 2 and 3
16 of the staff CMD and have just some specific idea that
17 during this two-year licensing period, it is AECL's plans
18 to complete these actions which directly affect the
19 Commission which are licensing issues with some sense of
20 what timing would be.

21 I think that 18 and 19 -- yes, 18, 19 and
22 on, and then on to pages 2 and 3, just in terms of if that
23 could be done for Day Two?

24 Just commenting, if I can before Dr. Barnes
25 wishes to continue, the comment that CNSC staff said, yes,

1 the primary concern of the Commission would be that this
2 facility operates safely during those two years but I
3 think there would be a sense that we would like to know
4 what would be planned for that two years and the staff,
5 therefore, have looked at the plan that AECL has. And
6 therefore, I guess implicit in that or maybe explicit is
7 that since staff are prepared to handle that in terms of
8 oversight of that. So I think that's necessary, I think,
9 for the Commission to feel secure in the granting of a
10 licence. I hope that helps.

11 Okay. We now go to Dr. McDill.

12 **MEMBER McDILL:** Thank you. My questions
13 were along the lines of Dr. Barnes. So I'll move to the
14 next area.

15 I'd like to refer to page 1 and page 14 of
16 H21.1 and to page 3 of H21 in the staff's document. On
17 page 1, it says:

18 "The design and construction programs
19 are complete."

20 On page 14, it says:

21 "There has been a continuing need for
22 design services to resolve non-
23 conformances and design facility
24 improvements..."

25 Maybe that's a verb.

1 "...and design facility improvements
2 and to provide design support services
3 to spares procurement..."

4 And on page 3 of the staff document, it
5 refers again to the engineering documentation baseline and
6 that would be presumably the design documentation
7 baseline.

8 Can you maybe -- can AECL reconcile these
9 for me? The designing construction programs are complete,
10 maybe preliminary design, but there is still ongoing
11 design and non-conformance and there is still not a
12 complete documentation baseline.

13 **MR. HEDGES:** For the record, Ken Hedges.

14 I would like Lawrence Lupton to talk about
15 this item and I'll follow on if there's anything missing.

16 **MR. LUPTON:** For the record, Lawrence
17 Lupton.

18 Break it into two parts. The design of the
19 facility as we needed to start Phase A commissioning is
20 done and it has been constructed. So that sort of ends
21 the formal design part of the initial phase of the
22 project. Design services are still required because as we
23 are in commissioning, we find things that don't work or
24 don't meet the performance requirements and therefore, we
25 go back to design to either do modifications or, as we're

1 having to do on the waste management systems, rethink a
2 couple of aspects of them. So that is why there is still
3 design going on at this stage.

4 The core design is in place. Now, we are
5 basically resolving performance issues during
6 commissioning.

7 **MEMBER McDILL:** And the documentation?

8 **MR. LUPTON:** As Paul Lafrenière noted, we
9 have 64 per cent of the documents in place and up to date,
10 the remainder having to be revised because as we are
11 making the design changes, we need to update them. The
12 major systems that are requiring updated documentation are
13 the waste management systems at this time.

14 **MEMBER McDILL:** I wonder if I could ask
15 staff to comment on the same issue.

16 **MR. LAMARRE:** Greg Lamarre for the record.

17 Staff concurs with the comments made by
18 AECL and prior to releasing that prerequisite for in-
19 service, staff will most certainly be carrying out some
20 sort of a verification activity to satisfy ourselves that
21 the engineering document baseline is as per the fitted
22 situation at the completion of commissioning before AECL
23 moves to in-service.

24 **MEMBER McDILL:** Is it possible to get a
25 project timeline with some milestones or something that

1 encapsulates this a bit better for us?

2 **MR. HEDGES:** I would be happy to share the
3 overall schedule, all the detailed schedule. I will
4 provide that in a Day Two submission or sooner if
5 necessary.

6 **THE CHAIRPERSON:** I think Day Two is
7 adequate and I'll leave it to your judgment to make sure
8 the level of detail is not excessive. As Dr. McDill asked
9 for, it's sort of an overview of the major milestones with
10 the timing. That would be helpful.

11 Mr. Taylor.

12 **MEMBER TAYLOR:** Thank you, Madam Chair.

13 A general question and then a more detailed
14 question. In AECL's first page, it says:

15 "MDS Nordion would take legal title of
16 the NPF after successful completion of
17 the commissioning program. AECL will
18 then continue to operate the NPF and
19 will remain and retain design
20 authority role and the holder of the
21 operating licence."

22 So I think that's clear but I'd like to ask
23 staff are you clear about who has ultimate responsibility
24 for safety, whose Board of Directors is responsible for
25 overseeing that and providing the financial resources

1 necessary to carry it out?

2 **MR. LAMARRE:** Greg Lamarre for the record.

3 It's certainly clear to us, Commission
4 Member Taylor, that the answer to all of those questions
5 is AECL. Those are the people that are in front of you
6 today in support of this application. They are the
7 licensee. They are the organization and the individuals
8 that we hold responsible for safe operations of this
9 facility and all of the conditions thereto. So the answer
10 is clearly Atomic Energy of Canada Limited.

11 **MEMBER TAYLOR:** May I ask if AECL agree
12 with that?

13 **MR. HEDGES:** For the record, Ken Hedges.
14 I agree with that completely.

15 **MEMBER TAYLOR:** Thank you.

16 Then a detailed question about this small
17 diesel generator. I note that its installation is a
18 prerequisite to in-service operation but not to active
19 commissioning. Is that reasonable? Does staff agree with
20 that, that you don't need the full availability of power
21 supplies for this cooling system on active commissioning?

22 **(SHORT PAUSE)**

23 **MR. HOWDEN:** Barclay Howden speaking, for
24 the record. Sorry for the delay.

25 We have the rationale, but it's not at our

1 fingertips and we propose to bring it forward on Day Two,
2 Mr. Taylor.

3 **MEMBER TAYLOR:** Thank you.

4 Then one further point about that topic,
5 perhaps it's nitpicking, but I would have thought that the
6 prerequisite should be that AECL must procure, install and
7 commission the diesel generator and the charger for the
8 uninterruptible power supply, not just install it. I'm
9 just -- well, I hope that goes without saying, but since
10 we're in a formal process here, perhaps we should be
11 clear.

12 **MR. HOWDEN:** We will address that as well.

13 **THE CHAIRPERSON:** Are there any further
14 questions for the licensee or Commission staff?

15 **MR. LEBLANC:** This hearing is to be
16 continued on October 18, 2005 here in the CNSC offices.
17 The public is invited to participate either by oral
18 presentation or written submission on Hearing Day Two.
19 Persons who wish to intervene on that day must file
20 submissions by September 19th, 2005.

21 The hearing is now adjourned to October 18,
22 2005.

23 **THE CHAIRPERSON:** This brings to a close
24 the public hearings of the Canadian Nuclear Safety
25 Commission.

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Thank you all for your attendance, and for
those from out of town, safe voyage home.
--- Upon adjourning at 3:09 p.m.