

1           **HEARING DAY ONE**

2           **Atomic Energy of Canada Limited: Application for**  
3           **a licence to decommission Whiteshell Laboratories**

4                           THE CHAIRPERSON: We will now move  
5           to hearing Day One of a two-day process in the  
6           matter of the application of Atomic Energy of  
7           Canada Limited for a licence to decommission  
8           Whiteshell Laboratories.

9                           August 13th was the deadline set  
10          for filing by the applicant and by CNSC staff.  
11          September 5th was the deadline for filing of  
12          supplementary information by the applicant and  
13          Commission staff.

14                          The applicant, Atomic Energy of  
15          Canada Limited, filed supplementary information  
16          contained in CMD 02-H19.1A.

17

18           **01-H19.1 / 02-H19.1A**

19           **Oral presentation by Atomic Energy of Canada**  
20           **Limited**

21                          THE CHAIRPERSON: I would like to  
22          begin the hearing by calling upon Atomic Energy of  
23          Canada Limited for an oral presentation which is  
24          outlined in CMD 02-H19.1 and CMD 02-H19.1A.

25                          I will turn it over to Mr. Allan.

1 Welcome.

2 MR. FEHRENBACH: Thank you, Madam  
3 Chair, Members of the Commission. My name is Paul  
4 Fehrenbach. I am the Chief Operating Officer for  
5 AECL's Nuclear Laboratories.

6 In that capacity, I am pleased to  
7 introduce this morning the AECL presentation team  
8 for the Whiteshell Laboratories licence renewal  
9 hearing.

10 This request, as noted, is for a  
11 site decommissioning licence, which represents a  
12 departure from the long series of operating  
13 licences under which nuclear research activities  
14 at Whiteshell have been conducted.

15 With the 1998 decision to close  
16 Whiteshell and to consolidate AECL's nuclear  
17 research activities at Chalk River, the work at  
18 Whiteshell moves largely to a decommissioning  
19 focus but with some small amount of continuing  
20 research and development.

21 The presentation team we have  
22 assembled this morning is sizeable because AECL is  
23 undergoing a transition to a new Decommissioning  
24 and Waste Management team as a result of  
25 retirements, both recent and planned, and other

1 changes. I would like to take this opportunity to  
2 give you a brief update on these changes and to  
3 introduce the various key staff members. I would  
4 ask them to just acknowledge when their name is  
5 called to help you identify them.

6 The responsibility for the  
7 Whiteshell licence has been transferred to Colin  
8 Allan, who is currently the General Manager for  
9 AECL's Decommissioning and Waste Management  
10 organization. Colin will be presenting to you  
11 this morning the request for the decommissioning  
12 licence.

13 Colin has announced his retirement  
14 from AECL as of the end October. Bill  
15 Kupferschmidt, who will be assuming responsibility  
16 as General Manager of Decommissioning and Waste  
17 Management, is already working with Colin.

18 As well, Bob Helbrecht, originally  
19 the Director for Whiteshell Decommissioning,  
20 retired on July 31st and Grant Koroll has now  
21 assumed that responsibility.

22 Bob McCamis has been appointed the  
23 Whiteshell Laboratories Facility Authority,  
24 reporting to Colin.

25 Michael Stephens is the Manager of

1           Quality Assurance for Decommissioning and Waste  
2           Management.

3                           The balance of the team includes:  
4           Ray Lambert, who is responsible for Key Compliance  
5           Programs such as Radiation Protection,  
6           Environmental Protection and Emergency  
7           Preparedness; Brad Perrin, who is responsible for  
8           Physical Security; Jean-Pierre Letourneau, who has  
9           recently been appointed the Manager for Licensing  
10          Single Point of Contact for AECL; and John Chilton  
11          and George Sotirov(ph) AECL's Licensing Managers.

12                          Now I would like to call on Colin  
13          to present the request for the Whiteshell  
14          decommissioning licence.

15                          MR. ALLAN: Thank you, Paul.

16                          Madam Chair, Members of the  
17          Commission, I am pleased for the opportunity to  
18          speak with you about the renewal of the Whiteshell  
19          Laboratories licence. This presentation deals  
20          with the request for a decommissioning license for  
21          the site and, as Dr. Fehrenbach has pointed out,  
22          represents a turning point to a separate licensing  
23          path for Whiteshell.

24                          In my presentation I will provide  
25          some general background information and I will

1 present information on recent operational  
2 performance at Whiteshell.

3 Then I will discuss the request  
4 for a decommissioning license and the general  
5 framework for the work to be carried out in the  
6 first phase of decommissioning.

7 I will close with some brief  
8 summary remarks.

9 So starting with background.

10 AECL has operated the Whiteshell  
11 Laboratories at Pinawa, Manitoba since 1965.  
12 Significant programs have included the Organic  
13 Cooled Reactor Program centred on the WR-1  
14 reactor, which operated from 1965 to 1985 to  
15 demonstrate the feasibility of the organic cooled  
16 CANDU concept.

17 The Canadian Nuclear Fuel Waste  
18 Management Program was also centred at the  
19 Whiteshell site and members of that team continue  
20 development work there and also at the nearby  
21 Underground Research Laboratory.

22 A broad array of CANDU R&D  
23 comprising Reactor Safety Research, Material  
24 Science, Post Irradiation Examinations, Chemistry  
25 and Small Reactor Development have also been

1 conducted at Whiteshell, although most of this  
2 work has now been transferred to AECL's Chalk  
3 River Laboratories.

4 This overhead shows the layout of  
5 the Whiteshell Laboratories located just east of  
6 the Winnipeg River near the communities of Lac du  
7 Bonnet, Seven Sisters and Pinawa, Manitoba.

8 The main laboratory site consists  
9 of a protected area that contains the nuclear  
10 facilities and a supervised area which contains  
11 supporting infrastructure buildings. The main  
12 features of the protected area are the WR-1  
13 Reactor; Building 300, the main R&D complex, and  
14 the Shielded Facilities. The Concrete Canister  
15 Storage Facility and the Waste Management area are  
16 located approximately one kilometre northeast of  
17 the laboratory site.

18 Funding reductions resulting from  
19 the Federal Government Program Review Process in  
20 the latter part of the 1990's led to the decision  
21 in 1998 to terminate most research work at  
22 Whiteshell. This decision created the need for  
23 detailed planning for decommissioning and formal  
24 notification of the intent to decommission was  
25 issued to the former AECCB in June of 1999.

1                   The notification triggered an  
2                   environmental assessment at a comprehensive study  
3                   level as part of the licence requirements to  
4                   initiate the site decommissioning program. In  
5                   2001, agreement was reached with CNSC to initiate  
6                   the process to obtain a decommissioning licence  
7                   for Whiteshell.

8                   Over the past two years,  
9                   operations to prepare for nuclear facility  
10                  decommissioning have been carried out. Irradiated  
11                  fuel has been consolidated in the main concrete  
12                  canister storage area. Research materials and  
13                  equipment have been moved from the Shielded  
14                  Facilities and the Building 300 laboratories,  
15                  either to Chalk River for use in research programs  
16                  there or to waste storage at Whiteshell. A  
17                  detailed facility and general sites hazards  
18                  characterization study has been started.

19                  Three research programs continue  
20                  to operate at Whiteshell and will continue for  
21                  some time yet. They are:

22                                 Safety Thermalhydraulics testing  
23                                 using the RD-14M test facility;

24                                 Reactor Safety Hydrogen Combustion  
25                                 research; and

1                   the Waste Technology Business Unit  
2           which performs development and demonstration work  
3           in the technology for geological disposal.

4                   Operating performance at  
5           Whiteshell has continued to be favourable. Doses  
6           to employees, contractors and the public have  
7           remained well below regulatory limits for many  
8           years.

9                   Operations in preparation for  
10          decommissioning and the continuing research  
11          program work have all been conducted safely in  
12          accordance with AECL's compliance programs.

13                  During the current licence period  
14          there have been no reportable events and  
15          environmental releases have been well below  
16          regulatory limits.

17                  This overhead demonstrates  
18          radiation dose performance over the past several  
19          years, indicating low levels for both collective  
20          dose and average dose.

21                  Some minor increases in average  
22          dose have been experienced in recent years. This  
23          largely reflects the increased work with  
24          radioactive materials to complete shutdown  
25          operations for the nuclear facilities at



1 Whiteshell.

2                   While the future decommissioning  
3 work will be conducted in compliance with ALARA  
4 principles, with the increased work in nuclear  
5 facilities, some further minor increases in doses  
6 can be expected in the future.

7                   This overhead shows environment  
8 release data also indicating performance well  
9 below regulatory limits. In fact, releases are  
10 well below 0.1 per cent of derived release limits.

11                   Now I would like to say a few  
12 words about the decommissioning licence request.

13                   The licence application is  
14 structured to enable three main activities to be  
15 conducted at Whiteshell.

16                   First and foremost, implementation  
17 and completion of Phase 1 of the decommissioning  
18 program. As I will discuss, decommissioning is to  
19 be conducted in three phases.

20                   Activities also include continued  
21 operation of some research programs required to  
22 meet AECL business needs, and maintenance of the  
23 infrastructure and support services common to both  
24 the decommissioning and the research activities.

25                   The main emphasis is on

1 decommissioning and, accordingly, some detailed  
2 discussion of the decommissioning project work  
3 scope is relevant.

4           The overall decommissioning scope  
5 covers all lands and facilities under the existing  
6 site licence. There are seven listed nuclear  
7 facilities: the WR-1 reactor, already in a state  
8 of storage-with-surveillance since 1995; a Van de  
9 Graaff accelerator; a neutron generator; the  
10 shielded facilities; and three waste management  
11 facilities.

12           There are three radioisotope  
13 facilities, the building 300 research laboratory  
14 complex, the decontamination centre, and building  
15 402 which is now used by a number of commercial  
16 businesses that have been spun out from AECL, as  
17 well as by AECL itself.

18           A key facility in building 402 is  
19 the electron accelerator operated by Acsion.  
20 Acsion is the licence holder for this accelerator.

21           The balance of the site that is or  
22 may be radioactively contaminated consists of  
23 buildings and services such as the active drainage  
24 system, active area support buildings,  
25 contaminated land areas, and some off-site

1           contamination, for example, sediments at the site  
2           process water outfall.

3                       There are also a range of inactive  
4           services which must be considered in  
5           decommissioning, including domestic buried  
6           services, sewage lagoons, the inactive landfill  
7           and administrative buildings.

8                       Achieving the final  
9           decommissioning end state for Whiteshell is a  
10          relatively long process. The project rationale is  
11          based largely on the availability, or perhaps I  
12          should say the non-availability, of radioactive  
13          waste disposal facilities.

14                      The decommissioning approach,  
15          therefore, is to manage radioactive wastes and  
16          contamination in existing facilities as much as  
17          possible until wastes can be moved to a final  
18          destination and so avoid double handling.  
19          Avoiding double handling of radioactive waste is  
20          critical to minimizing overall dose commitment in  
21          reaching the final end state.

22                      There is also very significant  
23          benefit to deferring the dismantling of WR-1 and  
24          handling the resultant wastes, as well as  
25          deferring the handling of some of the wastes in

1 storage in the waste management area to benefit  
2 from the process of natural radioactive decay.

3 Since Canada does not today have  
4 licensed disposal facilities for radioactive  
5 waste, it was necessary to formulate assumptions  
6 on when radioactive waste could be moved from  
7 Whiteshell to a final destination. For planning  
8 purposes, the dates selected are 2025 for low-  
9 level waste and 2050 for high-activity waste.

10 Site decommissioning will be  
11 conducted in three phases and the goal is for  
12 Whiteshell to be a decommissioned site in about 60  
13 years, that is by about 2060.

14 The first phase of decommissioning  
15 will last about seven years, commencing with  
16 initial work already approved in July of this  
17 year. This phase focuses on decontamination and  
18 building modifications to achieve a safe state of  
19 storage-with-surveillance.

20 The second phase, lasting  
21 approximately 10 years, maintains the storage-  
22 with-surveillance state of decommissioning  
23 facilities and includes waste management  
24 improvement activities for selected wastes already  
25 in storage.

1                   Phase 3 covers the last 40 years  
2 of the program. Initially, this phase is  
3 continued storage-with-surveillance, followed by  
4 final decommissioning of facilities and  
5 infrastructure.

6                   The final end state is one of  
7 "free release", with removal of waste from the  
8 site to a final destination, with two exceptions:

9                   The first is the low-activity  
10 trenched wastes at the waste management area where  
11 the feasibility of in-situ management has been  
12 established. Institutional control for a further  
13 post-program period of up to 200 years is proposed  
14 to allow the radioactivity level of this waste to  
15 decay to background before the area could be  
16 considered suitable for release.

17                  The second exception is the  
18 contaminated sediment at the site process water  
19 release point to the Winnipeg River. A detailed  
20 field investigation was conducted in the area to  
21 support the proposed in-situ end state. The  
22 Environmental Assessment Follow-up Program  
23 includes downstream monitoring over the  
24 decommissioning period to confirm that  
25 decommissioning does not result in increased

1           contamination of sediments.

2                           The focus of this licence  
3           submission is the first phase of decommissioning.  
4           The main work is to place the nuclear and  
5           radioisotope facilities in a secure state of  
6           storage-with-surveillance until final disposition  
7           of the wastes that will result from dismantling  
8           can be accomplished.

9                           The main storage-with-surveillance  
10          components are the shielded facilities, the  
11          building 300 research laboratory complex, much of  
12          active liquid waste treatment centre and waste  
13          management facilities.

14                          The Van de Graaff Accelerator and  
15          the Neutron Generator will be fully  
16          decommissioned.

17                          A number of redundant non-nuclear  
18          buildings are planned for demolition.

19                          Radioactive wastes produced during  
20          Phase 1 work will be stored at the Whiteshell  
21          waste management area.

22                          One other significant Phase 1  
23          activity is to identify the waste management area  
24          remediation projects to be undertaken in  
25          subsequent phases to improve interim storage of

1 waste at Whiteshell until disposal becomes  
2 available.

3 The next overheads give an  
4 indication of the changes to site buildings  
5 resulting from Phase 1 work.

6 The first overhead, shown here,  
7 shows the site layout as it is now.

8 The next overhead, now up, shows  
9 structures remaining, shown in blue, by about  
10 2007. Most buildings on the south side of the  
11 site are planned to be removed, with the exception  
12 of the pump house, building 402, and the  
13 entry/security building, building 401. Two  
14 equipment storage buildings will be relocated to  
15 the north side of the site.

16 Madam Chair, Members of the  
17 Commission, the balance of my presentation  
18 describes the framework within which the  
19 decommissioning program and remaining operations  
20 will be carried out, covering the Whiteshell  
21 environmental assessment, the public  
22 communications program, the status of  
23 decommissioning documentation, Phase 1  
24 decommissioning costs, Whiteshell organizational  
25 structure, quality assurance and the AECL key

1 compliance programs.

2 I will speak briefly to each of  
3 these topics in turn.

4 As mentioned, the environmental  
5 assessment for Whiteshell decommissioning was  
6 conducted at a comprehensive study level. There  
7 were numerous questions raised by federal expert  
8 reviewers, by the Manitoba Conservation Technical  
9 Advisory Committee, and by the public.

10 Over 700 comments in total. All  
11 were resolved to the satisfaction of the  
12 responsible authorities, the CNSC and the  
13 Department of Fisheries and Oceans, and to the  
14 satisfaction of Canadian Environmental Assessment  
15 Agency.

16 To finalize the environmental  
17 assessment for contaminated sediments and trenched  
18 low-level waste, detailed fieldwork was carried  
19 out to confirm the feasibility of the proposed end  
20 states.

21 Another example of fieldwork was a  
22 detailed site aerial radiation survey carried out  
23 to differentiate site areas "affected" by nuclear  
24 research activities from areas "unaffected" by  
25 nuclear activities.



1                   The CNSC and the Department of  
2                   Fisheries and Oceans agreed with the findings of  
3                   the environmental assessment, that the project was  
4                   unlikely to cause significant adverse  
5                   environmental effects or cumulative effects and  
6                   that appropriate public consultation was  
7                   conducted. The Comprehensive Study Report was  
8                   then submitted to CEAA and ultimately to the  
9                   Environment Minister, who accepted the findings of  
10                  the environmental assessment on April 2nd of this  
11                  year.

12                  As documented in the Comprehensive  
13                  Study Report, AECL is committed to a number of  
14                  follow-up program activities to ensure that the  
15                  decommissioning work and planned mitigation  
16                  measures perform as expected. The follow-up  
17                  program has been formally documented and forms  
18                  part of the licensing submission.

19                  Elements of this program include:

20                                 Maintaining the existing  
21                  monitoring program;

22                                 Establishing air quality  
23                  monitoring for building demolition work;

24                                 Evaluating the fitness-for-service  
25                  of waste management area facilities;

1                   Confirming hydrogeological  
2           conditions at the waste management area;

3                   Implementing enhanced monitoring  
4           for sewage lagoons and the inactive landfill;

5                   Monitoring Winnipeg River  
6           downstream sediments; and

7                   Implementing a public  
8           communication program and maintaining it  
9           throughout decommissioning.

10                   Implementation of the public  
11           communication program has already been started, as  
12           of June of this year, to update interested parties  
13           on the status of decommissioning; to provide  
14           sources and contacts for obtaining information;  
15           and to solicit interest in forming a public  
16           liaison committee.

17                   Elected officials were also  
18           provided with decommissioning information, as well  
19           as information on communications in progress.

20                   Feedback has indicated interest in  
21           forming a public liaison committee and initial  
22           meetings to formulate terms of reference for this  
23           committee were held in August of this year.

24                   An update meeting was also held  
25           with the Sagkeeng First Nation.

1                   A significant level of  
2           decommissioning planning documentation has been  
3           produced and the detailed decommissioning plans  
4           covering the initial elements of the Phase 1  
5           program have been included as part of the  
6           licensing submission. These include:

7                   The Overview Detailed  
8           Decommissioning Plan which sets out the entire  
9           Whiteshell Decommissioning Program in a general  
10          format, including the overall program strategy,  
11          rationale and timing.

12                   It also includes detailed  
13          Decommissioning Plans for the shielded facilities,  
14          the Van de Graaff Accelerator and the Neutron  
15          Generator.

16                   Documentation also delivered to  
17          CNSC Staff for review include a preliminary  
18          decommissioning plan for the concrete canister  
19          storage facility and the building 300 shutdown and  
20          decontamination plan.

21                   The balance of Phase 1 planning  
22          documentation is already in draft form and  
23          undergoing internal AECL review. This  
24          documentation includes the Site General  
25          Infrastructure Shutdown and Decontamination Plan,

1 and preliminary Decommissioning Plans for the  
2 Waste Management Area and the Active Liquid Waste  
3 Treatment Centre. These will be submitted to the  
4 CNSC in due course.

5 The cash flow for the first Phase  
6 of Whiteshell decommissioning is shown here.

7 Spending over the first five  
8 years, estimated to total about \$40 million, has  
9 been included in the current AECL five-year  
10 corporate plan. This plan has been approved by  
11 the Governor in Council following recommendations  
12 by the Minister of Natural Resources Canada and  
13 Treasury Board. The corporate plan is updated  
14 annually, and as it is updated the time frame of  
15 the plan will be extended, one year at a time, to  
16 include the last two years of Phase 1  
17 decommissioning and then the work to be undertaken  
18 in Phase 2.

19 An organizational structure to  
20 implement and manage the Whiteshell  
21 decommissioning program has been developed and is  
22 in operation. As General Manager, Decommissioning  
23 and Waste Management, I have the lead  
24 responsibility for Whiteshell decommissioning,  
25 reporting to the Chief Operating Officer, Dr. Paul

1 Fehrenbach.

2 The areas shown in blue on this  
3 overhead indicate organizational groups reporting  
4 to me with responsibilities relevant to  
5 Whiteshell. These include the decommissioning  
6 program manager, the Whiteshell site common  
7 services manager, the decommissioning and waste  
8 management quality assurance manager and the  
9 facility authority for the Whiteshell nuclear  
10 facilities.

11 The key compliance program  
12 authorities assist me in meeting my  
13 responsibilities.

14 I would mention that in the key  
15 area of radiation protection the Whiteshell  
16 radiation protection manager and staff are under  
17 the direct management of the program authority,  
18 Ray Lambert, to ensure independent review of work  
19 plans and procedures and oversight of work.

20 As mentioned by Paul Fehrenbach  
21 during his introduction, Bill Kupferschmidt is  
22 already working closely with me prior to assuming  
23 the role of site licence holder on my retirement  
24 later this fall.

25 Quality assurance arrangements are

1 now being put into place. A draft company-wide  
2 decommissioning quality assurance manual has been  
3 circulated for internal review and is now being  
4 revised based on feedback received. Associated  
5 procedures are also in preparation.

6 The manual and the company-wide  
7 procedures are based on the CSA N286.6 standard  
8 and are being developed using the existing quality  
9 assurance plans and procedures for AECL's  
10 decommissioning activities at its Chalk River  
11 laboratories.

12 A copy of the manual will be  
13 available for CNSC staff review before the Day 2  
14 hearing in November.

15 A Whiteshell-specific  
16 decommissioning quality assurance plan is also in  
17 preparation and will be issued for internal review  
18 by the beginning of October. Associated quality  
19 assurance procedures will also be prepared.

20 Training of Whiteshell staff is  
21 scheduled to be completed on the quality assurance  
22 manual, the Whiteshell quality assurance  
23 decommissioning plan and the Whiteshell procedures  
24 before the Whiteshell site decommissioning licence  
25 comes into effect.

1 All activities in the nuclear  
2 facilities that remain in operation will be  
3 managed under AECL's nuclear operations quality  
4 assurance program, which is based on the CSA  
5 N286.5 standard.

6 AECL is committed to conducting  
7 all operations and decommissioning activities in  
8 accordance with established internal programs.  
9 These include environmental protection, radiation  
10 protection, emergency preparedness, physical  
11 security and fire protection, occupational safety  
12 and health, operational experience, nuclear  
13 materials management and transportation of  
14 radioactive materials.

15 Reference material for these  
16 programs is clearly identified in the licensing  
17 support document RC-693-WL supplied to CNSC staff.

18 Madam Chair, Members of the  
19 Commission, AECL has demonstrated safe and  
20 compliant operation at the Whiteshell Laboratories  
21 over the current licensing period. All  
22 requirements of the Canadian Environmental  
23 Assessment Act have been met with respect to the  
24 environmental assessment of the decommissioning of  
25 the Whiteshell Laboratories.

1                   The planning documentation, the  
2                   compliance programs and the organizational  
3                   structure are in place and will be maintained to  
4                   support the safe execution of the decommissioning  
5                   program.

6                   Based on past operational  
7                   performance and the decommissioning program  
8                   framework established over the past three years,  
9                   AECL is requesting a Whiteshell site  
10                  decommissioning licence for the duration of Phase  
11                  1 decommissioning.

12                  Thank you for the opportunity to  
13                  speak to you today. My colleagues and I will be  
14                  pleased to deal with your questions.

15                  THE CHAIRPERSON: Thank you.

16                  Before we move to the staff  
17                  presentation, I would like to clarify for the  
18                  record and to the Atomic Energy of Canada Limited  
19                  person with us today that this is not a renewal.  
20                  I think it is important that documents,  
21                  particularly in Day 2, do not use the word  
22                  "renewal" since it is a new licence. It is not a  
23                  renewal of the operating licence.

24                  Perhaps that is just a  
25                  clarification for legal terms, but I think it is



1 important for us to note that it is not a renewal  
2 of the operating licence. It is a new licence for  
3 decommissioning.

4

5 **02-H19**

6 **Oral presentation by CNSC staff**

7 With that, with the permission of  
8 the Commission Members, I would like to move to  
9 the presentation of the staff before we open the  
10 floor for questions.

11 Mrs. Maloney.

12 MS MALONEY: Good afternoon, Madam  
13 Chair, Members of the Commission.

14 I am Cait Maloney, Director  
15 General of the Directorate of Nuclear Cycle and  
16 Facilities Regulation. With me today are Mr.  
17 Barclay Howden, Director of the Research  
18 Facilities Division and Mr. Peter Fundarek, who is  
19 the Project Officer for the Whiteshell site.

20 CNSC staff has reviewed the  
21 operation of Whiteshell Laboratories and the  
22 application from AECL to decommission Whiteshell.  
23 It has formed a position on the application and  
24 put forward recommendations for your  
25 consideration.

1                   I will now turn over the  
2 presentation to Mr. Howden, who will outline these  
3 for you. Thank you.

4                   MR. HOWDEN: My name is Barclay  
5 Howden.

6                   Atomic Energy of Canada Limited  
7 has applied for a licence to decommission the  
8 Whiteshell Laboratories. CNSC staff prepared CMD  
9 02-H19, which contains recommendations for the  
10 Commission on this application.

11                   This presentation will give a  
12 brief overview of the key issues of this  
13 application and CNSC staff's recommendations.

14                   Our presentation has six sections:  
15 background, past and predicted future performance,  
16 conclusions, planned CNSC activities, proposed  
17 decommissioning licence and recommendations.

18                   In 1999 AECL submitted a letter of  
19 intent to the Atomic Energy Control Board  
20 indicating that AECL planned to decommission the  
21 Whiteshell site. CNSC staff determined that a  
22 federal environmental assessment was required  
23 under the provisions of the Canadian Environmental  
24 Assessment Act before regulatory consideration of  
25 the project could proceed.

1                   This was done in the form of a  
2                   comprehensive study report and was submitted to  
3                   the Minister of the Environment and the Canadian  
4                   Environmental Assessment Agency for ministerial  
5                   decision and public review.

6                   In March 2002 the Minister of the  
7                   Environment concluded that the project, as  
8                   described with mitigation, would not likely cause  
9                   significant adverse environmental effects and  
10                  referred the project back to the responsible  
11                  authorities, the CNSC and Fisheries and Oceans  
12                  Canada, for action.

13                  In April 2002, AECL formally  
14                  submitted an application for a licence to  
15                  decommission the Whiteshell site. The application  
16                  contains provisions to continue some limited  
17                  operations on site and supported the  
18                  decommissioning activities and to continue some  
19                  research programs.

20                  CNSC staff assessed operations  
21                  during the current licensing period. Staff is  
22                  satisfied that the results of these reviews are  
23                  indicative of expected performance since the same  
24                  or similar programs will continue to be used in  
25                  the future and will be complemented by new plans

1 and programs directly related to decommissioning.

2 In particular, staff assessed  
3 seven safety areas. Six safety areas met CNSC  
4 requirements in both our assessment of the  
5 specific programs and the implementation of the  
6 programs. These are operating performance,  
7 emergency preparedness, environmental protection,  
8 radiation protection, nuclear security and  
9 safeguards and non-proliferation.

10 The only safety area that did not  
11 meet requirements was the program portion of  
12 performance assurance. This is because the  
13 decommissioning quality assurance program is not  
14 yet fully developed or in place. However, AECL  
15 has committed in writing to have this program  
16 fully documented and implemented before the  
17 current operating licence expires.

18 CNSC staff expects that AECL will  
19 meet the requirements within six months of a new  
20 licence being issued and has proposed a licence  
21 condition to address this issue.

22 With regard to plans and programs  
23 directly related to decommissioning, AECL has met  
24 expectations with the information supplied in the  
25 application. CNSC staff has accepted the key

1 overview document that specifies the  
2 decommissioning program for the whole site and  
3 outlines the basic decommissioning strategy for  
4 the site.

5 For financial guarantees the  
6 current application is deficient. However, CNSC  
7 staff is satisfied that AECL will meet the  
8 requirements within one year of a new licence  
9 being issued and has proposed a licence condition  
10 to address this issue.

11 In summary, the overall  
12 performance of AECL at Whiteshell during the  
13 current licensing period is meeting requirements,  
14 and CNSC staff is of the opinion that performance  
15 will continue to meet requirements during the term  
16 of the proposed decommissioning licence.

17 CNSC staff concludes that AECL is  
18 qualified to carry on the licensed activities  
19 proposed in the licence application and, in  
20 carrying on these activities, AECL has made  
21 adequate provisions for protection of the  
22 environment, the health and safety of persons,  
23 national security and measures required to  
24 implement international obligations.

25 Over the past few years operations

1 at Whiteshell have been relatively steady with the  
2 wind-down of programs. Moving toward major  
3 decommissioning activities means that there will  
4 be significant changes at the site. CNSC staff is  
5 of the opinion that AECL has put in place adequate  
6 checks and balancing to make sure that the  
7 decommissioning is done safely.

8 Nonetheless, if the Commission  
9 approves the proposed licence, CNSC staff plans to  
10 verify AECL's compliance with the licence over the  
11 term of the licence.

12 In particular, CNSC staff plans to  
13 perform routine inspections of the site, any  
14 required follow-up on findings of a fire  
15 protection program audit plan for this fall, a  
16 radiation protection audit once decommissioning  
17 commences, a re-evaluation of the site emergency  
18 preparedness program under decommissioning  
19 conditions and a re-evaluation of the security  
20 program in 2003.

21 With regard to regulatory process,  
22 a number of licence amendments will be required  
23 during the term of the licence. CNSC staff  
24 proposes that these be done by a designated  
25 officer, specifically the Director General of

1 Nuclear Cycle and Facilities Regulation.

2 In the application before you the  
3 key decommissioning document to be included in the  
4 proposed licence in the Whiteshell Laboratories'  
5 detailed decommissioning plan, Volume 1, Program  
6 Overview. This document, which CNSC staff has  
7 accepted, outlines the entire decommissioning  
8 program over the proposed 60-year period of  
9 decommissioning and the overall decommissioning  
10 strategy.

11 The detailed decommissioning plans  
12 for each facility and the site infrastructure will  
13 become volumes in the overall detailed  
14 decommissioning plan. Presently CNSC staff has  
15 accepted two facility detailed decommissioning  
16 plans, and AECL has submitted other  
17 decommissioning planning documents for CNSC staff  
18 review.

19 CNSC staff acceptance of these  
20 submissions will be contingent on them meeting the  
21 program and strategy requirements of the  
22 decommissioning overview document referenced in  
23 the proposed licence, plus all CNSC health, safety  
24 and environmental protection requirements.

25 As stated before, CNSC staff

1 proposes that the Director General of Nuclear  
2 Cycle and Facilities Regulation amend the licence  
3 accordingly as staff accepts facility  
4 decommissioning documents and when specific  
5 decommissioning work is ready to commence.

6 The proposed licence is a  
7 decommissioning licence that also authorizes  
8 limited operation of certain facilities and  
9 operation of infrastructure required for the  
10 decommissioning.

11 There are two special conditions  
12 in the proposed licence, one for quality assurance  
13 and one for a financial guarantee.

14 The appendices of the proposed  
15 licence have been structured to administratively  
16 track the progress of decommissioning. Typically,  
17 an operating nuclear facility documented in  
18 Appendix B is expected to move to Appendix C when  
19 it is permanently shut down, then to Appendix D  
20 when it is undergoing decommissioning. Then it  
21 would be removed from the licence if it no longer  
22 contains nuclear or hazardous substances.

23 Eventually all of the facilities  
24 in Appendix E would be removed from the licence  
25 when they can be demonstrated to not contain



1 nuclear substances.

2 A six-year term has been requested  
3 by AECL. CNSC staff supports this length of  
4 licence term.

5 CNSC staff recommends that the  
6 Commission issue a nuclear research and test  
7 establishment decommissioning licence for a period  
8 of six years. The reasons for recommending a six-  
9 year term are:

10 The proposed expiry date  
11 approximately coincides with the completion of a  
12 distinct stage; that is, Phase 1 of Whiteshell's  
13 decommissioning.

14 The hazards in the proposed  
15 decommissioning are well characterized and  
16 understood.

17 The measures and programs that  
18 AECL has in place for protecting health, safety  
19 and the environment are suitable for controlling  
20 hazards that have been identified.

21 CNSC considers that the work on  
22 the decommissioning quality assurance program is  
23 sufficiently advanced that the program will meet  
24 requirements when it is needed.

25 AECL has demonstrated a consistent

1 good record of safety performance and compliance  
2 with regulatory requirements at the Whiteshell  
3 site.

4 CNSC staff is satisfied that the  
5 above trends will continue during decommissioning.

6 The proposed licence term will  
7 allow CNSC staff to better plan, conduct and  
8 complete assessments of several important  
9 performance areas during a single licensing  
10 period.

11 Also, a more representative trend  
12 analysis will be available to the Commission at  
13 the next licence renewal.

14 CNSC staff and AECL will be able  
15 to reallocate resources, from licensing to  
16 compliance, to complete the many activities  
17 planned over the proposed licensing period.

18 CNSC staff commits to providing  
19 the Commission with a status report on  
20 decommissioning at the mid-term of the licence.

21 That concludes my presentation. I  
22 will now pass the presentation back to Mrs.  
23 Maloney for some final remarks.

24 MS MALONEY: Thank you, Mr.  
25 Howden.

1                   In conclusion, I wish to emphasize  
2                   that staff is conscious that there is a particular  
3                   need to be vigilant as a facility moves from  
4                   operation to decommissioning. Working conditions  
5                   and support systems may change, and unexpected  
6                   situations are more likely to occur during  
7                   decommissioning than in routine operations.

8                   We therefore intend to pay  
9                   particular attention to activities at Whiteshell  
10                  during this decommissioning. We are satisfied  
11                  that AECL management is also aware of the need for  
12                  extra vigilance in these circumstances and that  
13                  they have put in place appropriate procedures and  
14                  programs.

15                  Should the Commission agree to  
16                  staff's proposal that a designated officer be  
17                  authorized to amend the licence to permit  
18                  decommissioning of specific facilities to move  
19                  from one phase to another -- that is, to move the  
20                  facility from one appendix of the licence to  
21                  another -- I wish to assure the Commission that  
22                  this will be done on the basis of compliance with  
23                  specific decommissioning plans that form part of  
24                  the licence and with all other relevant  
25                  requirements.

1                   Further, I wish to note staff's  
2                   commitment to present a mid-year report, in three  
3                   years, should you decide to grant a six-year  
4                   licence.

5                   That concludes staff's remarks.  
6                   We are of course available to answer your  
7                   questions.

8                   THE CHAIRPERSON: Thank you.  
9                   We will now open the floor for  
10                  questions.

11                  Dr. Giroux, would you like to  
12                  start?

13                  MEMBER GIROUX: Thank you.

14                  I would like to clarify the  
15                  situation on the quality assurance programs.

16                  I think you said very clearly that  
17                  you are in the transition from an operating  
18                  licence to a decommissioning licence, and there  
19                  would be a single licence. This licence would  
20                  cover the decommissioning activities but also some  
21                  of the remaining operations.

22                  So the remaining research programs  
23                  which have been identified would be covered by the  
24                  decommissioning licence. Is that correct?

25                  MR. HOWDEN: Barclay Howden, for

1 the record.

2 Yes, everything would be contained  
3 under the one licence. With regard to quality  
4 assurance, there would be a quality assurance plan  
5 for decommissioning; but also for the remaining  
6 operating facilities there would be an existing  
7 operations quality assurance program in place for  
8 that.

9 Everything will be contained in a  
10 single licence.

11 MEMBER GIROUX: That answers my  
12 first question: one licence and two QA plans or  
13 programs.

14 You say you don't have a  
15 satisfactory QA program for operations at the  
16 present time. Is that correct?

17 MR. HOWDEN: The operations  
18 quality management manual that covers all the  
19 operations for AECL is under review by our staff  
20 right now.

21 In terms of where it stands today  
22 in terms of safety from a quality assurance  
23 perspective, we have been reviewing progress of  
24 the development of the new decommissioning quality  
25 assurance plan and also are looking at the

1 existing operational quality assurance.

2 We are of the opinion that program  
3 documentation just needs to be clarified and put  
4 in place. We have done extensive assessments for  
5 decommissioning and extensive detailed  
6 inspections, and we feel that the majority of the  
7 processes are in place but are not fully  
8 documented in a manner such that a third party can  
9 come in and verify that they are in place.

10 That is where a lot of the focus  
11 is: to make sure that the existing processes are  
12 documented such that we as the third party can  
13 come in and verify that.

14 MEMBER GIROUX: This QA program  
15 which is under review is the one that would cover  
16 the operations and the research projects.

17 Is that what you are saying?

18 MR. HOWDEN: That is correct.  
19 That is the one that is under review. It is an  
20 existing program that we are looking at right now.

21 MEMBER GIROUX: That is clear.

22 The other part is the  
23 decommissioning QA program. The question I have  
24 is whether it is one or two that are being talked  
25 about.

1                   On page 11 of the CMD you refer to  
2 a company-wide decommissioning quality assurance  
3 manual. I am on page 11 under "Assessment".

4                   There is first a reference to a  
5 company-wide decommissioning quality assurance  
6 manual, and then at the end of the same paragraph  
7 there is reference to a Whiteshell decommissioning  
8 quality assurance plan.

9                   My question is: Are we talking  
10 about two plans now, maybe one contained within  
11 the other but none of which are ready or have been  
12 approved?

13                   MR. HOWDEN: I am going to ask  
14 Paul Wong, our QA specialist to apply to that.

15                   MR. WONG: For the record, my name  
16 is Paul Wong. I am a quality compliance  
17 specialist for the Directorate of Nuclear Cycle  
18 and Facilities Regulation.

19                   Yes, you are correct. Neither the  
20 program nor the plan for Whiteshell is ready or  
21 submitted to staff for review yet. They are in  
22 the process of developing it.

23                   The plan is the one that is  
24 specific for Whiteshell, and we will pay most  
25 attention to that one.

1                   MEMBER GIROUX: But is that one  
2 contained within a larger decommissioning manual  
3 or plan company-wide? That is my question.

4                   MR. WONG: Yes. The  
5 decommissioning plan that AECL is developing right  
6 now is a subset of the company-wide quality  
7 assurance program which is also being developed  
8 currently.

9                   MEMBER GIROUX: So we are talking  
10 about three plans, none of which has been approved  
11 so far, one is under review and two are under  
12 preparation.

13                   MR. WONG: That's correct.

14                   MEMBER GIROUX: Concerning the  
15 licence now, we have heard a list of commitments  
16 that AECL has taken on Slide 23, I think, and we  
17 have heard the presentation. My question is, will  
18 these commitments be part of the licence in terms  
19 of conditions or specifications within the  
20 licence?

21                   THE CHAIRPERSON: To clarify, this  
22 is page 23 of the AECL presentation.

23                   MR. HOWDEN: Barclay Howden  
24 speaking.

25                   This has to do with the follow up



1 to the environmental assessment that was  
2 conducted. Yes, what has happened is AECL has  
3 produced a follow-up program document which  
4 details what they will be doing as part of the  
5 follow-up monitoring to ensure that the monitoring  
6 is done and that communication measures are in  
7 place and monitored to ensure they are doing what  
8 is expected.

9 AECL produced a document that was  
10 approved by ourselves, accepted by ourselves and  
11 Fisheries and Oceans Canada, because we are the  
12 two responsible authorities. We have referenced  
13 that particular document in the licence. Yes,  
14 there is a specific licence condition for that  
15 particular follow up.

16 MEMBER GIROUX: The final  
17 question.

18 You state again, this is for  
19 staff, that there have been relatively few  
20 compliance activities and inspections. Is that a  
21 sign that the situation there is less critical  
22 than it might be at other installations?

23 MR. HOWDEN: We have done four  
24 inspections over the past two years, so  
25 approximately every six months, and that is

1           because of -- the nature is that the operations  
2           are very quiet there right now, but we would  
3           expect that frequency to increase once  
4           decommissioning is started for routine  
5           inspections, plus we have the other audit and  
6           evaluation activities planned which would be on  
7           top of routine inspections.

8                           THE CHAIRPERSON:   Ms MacLachlan.

9           --- Off record discussion

10                          THE CHAIRPERSON:   Dr. Dosman.

11                          MEMBER DOSMAN:   Madam Chair, I  
12           have questions for Atomic Energy Limited of  
13           Canada.

14                          Everything of course depends on  
15           the assumptions.  I am just wondering, in your  
16           estimations, goals for low level and high level  
17           waste of 2025 and 2050, if you would be willing to  
18           share with us some of the underlying assumptions  
19           of these time periods and how AECL will respond.

20                          MR. ALLAN:   Colin Allan for Atomic  
21           Energy of Canada Limited.

22                          The development of waste disposal  
23           facilities in Canada has in some ways lagged the  
24           development of such similar facilities in other  
25           countries.  For low-level waste, a number of OECD

1 countries, including the United States, Sweden and  
2 France, have licensed disposal facilities in  
3 operation. The time taken to establish such  
4 facilities is typically about 10 years from the  
5 time a commitment is made to proceed with a  
6 national facility.

7 The general development of  
8 Canadian plans is led by the Department of Natural  
9 Resources Canada, or their requirements, and they  
10 have placed responsibility for this on the waste  
11 producers and owners.

12 In the case of disposal facilities  
13 for used fuel and other high activity waste,  
14 legislation was passed this year and received  
15 Royal Assent to have the utilities, NB Power,  
16 Hydro Quebec and OPG, create a waste management  
17 organization that will first of all review options  
18 for long-term waste management and then within  
19 three years provide a recommendation to the  
20 Minister of Natural Resources Canada on a  
21 recommended option.

22 The options include geological  
23 disposal based on the concept that was developed  
24 by AECL and underwent an environmental review in  
25 the late nineties, as well as extended storage

1           either at the sites or at a central site.

2                               Because of that legislation, I  
3           think we can realistically expect a decision  
4           within a matter of four to five years on the  
5           future of waste management for used nuclear fuel.  
6           I think that decision will lead to decisions on  
7           other waste management facilities.

8                               The requirements for establishing  
9           the safety of disposal for low activity wastes or  
10          short-lived activity wastes are considerably less  
11          onerous and easier to meet, so we anticipate that  
12          disposal facilities for short-lived low activity  
13          waste will in fact come into existence prior to an  
14          operating facility for used nuclear fuel.

15                              AECL itself has developed a safety  
16          case for a near surface disposal facility, which  
17          we call IRUS, intrusion-resistant underground  
18          structure, and we have had extensive licensing  
19          discussion with CNSC staff and have largely  
20          resolved the issues.

21                              We have, as a country, if you  
22          like, a good understanding of what the  
23          requirements are. What needs to happen is for a  
24          national organization to come into existence to  
25          drive this forward, and the creation of the waste

1 management organization for dealing with nuclear  
2 fuel waste I think is part of that.

3 The other area where we have seen  
4 significant progress most recently is in dealing  
5 with the radioactive waste from mining and milling  
6 operations in the Port Hope area where agreement  
7 has been reached with the local communities to  
8 proceed.

9 So within that general background  
10 we believe that our assumptions are realistic but  
11 they are nonetheless planning assumptions.

12 Thank you.

13 THE CHAIRPERSON: Further  
14 questions, Dr. Dosman?

15 MEMBER DOSMAN: I will pass on this  
16 round.

17 THE CHAIRPERSON: Okay.

18 Ms MacLachlan.

19 MEMBER MacLACHLAN: I note in  
20 AECL's presentation that when you were discussing  
21 the comprehensive study report there were two key  
22 issues identified, management of contaminated  
23 sediments in the Winnipeg River and in situ  
24 management of trenched low level wastes.

25 I have not had the benefit of

1           seeing the comprehensive study report or the  
2           follow-up program, so I would ask staff to provide  
3           that to us for consideration for Day 2.

4                       Secondly, in staff's presentation  
5           mention was made of the financial guarantee. I  
6           didn't quite catch precisely what was said, but I  
7           thought I heard that the financial guarantee is  
8           not in place yet which coincides with what is in  
9           our CMD, but you thought -- I wasn't quite sure  
10          what you said.

11                      My question is, is there a  
12          financial guarantee in place under the existing  
13          licence now; and, if there is, what kind of a  
14          differential are you looking at between the  
15          financial guarantee under the existing licence and  
16          that which would come into force under the new  
17          licence?

18                      MS MALONEY: Cait Maloney.

19                      There is not an existing financial  
20          guarantee. We and AECL are working to establish  
21          an appropriate guarantee and to finalize the  
22          amount of that before. That is why there is a  
23          licence condition in there to ensure that that  
24          process is followed.

25                      MEMBER MacLACHLAN: So the time

1 frame then I believe is what? What is the time  
2 frame that you are contemplating, because it would  
3 have to be incorporated into the new licence and  
4 where are you in the process for making that  
5 determination?

6 MS MALONEY: The time frame, the  
7 condition, is one year from the start of the  
8 licence to get the guarantee in place.

9 Where we are now is we have got  
10 some wording that we want to finalize. Obviously,  
11 that is subject to legal considerations. It is  
12 also subject to -- some other outside agencies  
13 have to consider that because of course this is a  
14 government agency as opposed to a private company  
15 that we are dealing with.

16 MEMBER MacLACHLAN: Thank you.

17 THE CHAIRPERSON: Mr. Graham.

18 MEMBER GRAHAM: Just to follow up  
19 on Ms MacLachlan's questioning, in your licensing  
20 document you say December 31, 2003 you will have a  
21 financial guarantee in place. Will that cover  
22 Phase 1 or Phase 1, 2 and 3?

23 We have heard this morning that  
24 Phase 1 is approximately \$50 million -- \$49.8  
25 million or something I added up I think, so it is

1           approximately \$50 million for Phase 1, but will  
2           the guarantee take into consideration Phases 2 and  
3           3 which are over 10 and 40 year periods?

4                       MS MALONEY:   The intention is that  
5           the guarantee will cover the whole liability of  
6           the sites.  It will cover all phases of  
7           decommissioning.

8                       MEMBER GRAHAM:  I realize  
9           negotiations are going on, but will that guarantee  
10          be equal to the amount required to do the  
11          decommissioning?

12                      MS MALONEY:  The guarantee will be  
13          established so that the funds are available at the  
14          time they are needed.  Obviously, all the money  
15          will not be cash available now, but there will be  
16          a provision for a fund to build or a backup  
17          guarantee from the federal government as is  
18          consistent with the policy that we have  
19          articulated.

20                      MEMBER GRAHAM:  I think what we  
21          have seen this morning is that \$50 million for a  
22          seven-year Phase 1 and considerably more over the  
23          period of time indicates certainly the amount the  
24          guarantees will have to be, not only for this  
25          licence but for other licences as we go along,



1           that there are significant amounts of money needed  
2           for decommissioning of all facilities.

3                       I guess my question would be, will  
4           this be a guideline as you proceed with other  
5           financial guarantees for decommissioning of other  
6           facilities?

7                       MS MALONEY:   The process we are  
8           following is similar to ones we have already  
9           followed for uranium mines where we have already  
10          got guarantees in place.  Similar processes are  
11          being followed for other guarantees that we are  
12          currently negotiating.  Those for reactors, for  
13          example.

14                      The amount here I guess is  
15          significantly more than any other guarantee we  
16          have ever seen up until now, even for uranium  
17          mines with significant facilities.  Realistic  
18          costs in 2040 dollars or 2030 dollars could be  
19          considerably more than in 2002 dollars.

20                      MS MALONEY:   Yes, you are right.  
21          Of course there is provision for a review of the  
22          financial guarantees on a periodic basis, or if  
23          there is any change to the facility or we need to  
24          look at it, so this is certainly not something  
25          that we do once and walk away from.

1 THE CHAIRPERSON: Dr. McDill.

2 MEMBER McDILL: Thank you.

3 My question relates to the quality  
4 assurance manual. I am told I have to talk to  
5 this not look at you so I apologize for not  
6 looking at you.

7 The quality assurance manual has  
8 to deal I guess with the licensing period  
9 immediately. Does it include the 60 years coming  
10 up after that? I guess my question is to staff  
11 first.

12 MR. HOWDEN: Barclay Howden.

13 The answer is yes, however it  
14 would undergo continuous review by staff to make  
15 sure it is applicable. Since decommissioning  
16 there are changes which may require changes. But  
17 yes, the expectation is there will be a  
18 decommissioning quality assurance plan and manual  
19 going out for the whole 60-year period.

20 MEMBER McDILL: My question then  
21 relates to the safety of media over 60 years, or  
22 even over six years. It is highly unlikely this  
23 PowerPoint presentation will be readable in six  
24 years by any machine that exists down there in six  
25 years. Paper manuals, electronic manuals, CD-

1 ROMs. Does your quality assurance manual deal  
2 with upcoming quality assurances that must be  
3 built into the system so that the technical  
4 changes in reporting can be dealt with?

5 MS MALONEY: It is Cait Maloney  
6 here.

7 This is not something that we have  
8 explicitly addressed, either for the quality  
9 assurance manual or in fact generally for all  
10 records that we maintain. This is obviously a  
11 specific challenge for decommissioning. It is one  
12 that we have become all too aware of. I am old  
13 enough to remember eight track so it is certainly  
14 something that we are dealing with, not just  
15 nationally but internationally.

16 Staff will be keeping an eye on  
17 that and monitoring it as technology evolves. We  
18 will be keeping up to ensure that we can read  
19 current and immediately past information. It will  
20 have to be an ongoing thing, because obviously we  
21 can't predict where things will be in future. But  
22 it is something that we are aware of.

23 MEMBER McDILL: Thank you.

24 THE CHAIRPERSON: Dr. Barnes.

25 MEMBER BARNES: I have questions

1 in five main areas. Cut me off if I go too long.

2 Expression of surprise maybe in  
3 two areas first.

4 One is it is a significant licence  
5 request and yet in our documentation to the  
6 Commission there is no substantive documentation  
7 from the applicant, is that correct, apart from  
8 the slides that we had here and a copy of a  
9 letter. In other words, you are looking for a six  
10 year licence and the only real documentation on  
11 the specifics comes from the staff presentation.

12 I wonder, maybe staff could  
13 explain why we wouldn't have received more  
14 substantive information as a background to the 30-  
15 odd slides that were shown by the proponent here,  
16 the applicant.

17 MR. HOWDEN: Barclay Howden  
18 speaking.

19 In terms of documentation  
20 submitted by the applicant, the bulk of it came in  
21 the form of the application, plus all the  
22 supporting documents which we have reviewed and  
23 tried to roll up into a recommendation to you.  
24 That information is available to you if you wish.

25 In terms of for the proceeding

1           today, we were trying to give you a summary.

2                           MEMBER BARNES: I still find it  
3           strange that I suppose you feel no responsibility  
4           to have the applicant put a summary of what they  
5           are asking the Commission to do in such a format  
6           that (a) the Commissioners and (b) the public  
7           would have more substantive detail from the  
8           applicant as opposed to you being the translator  
9           of a number of documents.

10                          MS MALONEY: We will take notice  
11           of that. I understand where you are coming from  
12           on that.

13                                  Thank you.

14                                  MEMBER BARNES: Okay.

15                                  The second thing of, again, a more  
16           philosophical nature, we are advised by the  
17           applicant that following the cutbacks in 1998 that  
18           AECL, for really business reasons, decided to  
19           close the Whiteshell facility. As you point out,  
20           this of course has been a somewhat national  
21           facility to understand the disposal of long-live  
22           waste. You also pointed out that compared to  
23           other countries Canada perhaps dragged its heels a  
24           little bit in establishing such repositories for  
25           short-live waste as well as long-live waste and

1           that just this year the federal government had  
2           started the process of legislation and a structure  
3           to allow the utilities to develop a central  
4           repository, or at least to consider it.

5                         So it is perhaps a little ironic  
6           that you are closing a facility that in fact might  
7           -- at least part of a facility that might well be  
8           needed by utilities to do further work in  
9           designing or developing a central repository for  
10          the waste, including the material that you have  
11          identified here that would be moved at some stage.

12                        In the scope of the  
13          decommissioning here for the Pinawa, are you, in a  
14          sense, reducing the capacity for the utilities or  
15          the new waste organization as established to be  
16          able to use the subsurface facilities or other  
17          facilities here that have been used in the past  
18          for the issue of long-term disposal, subsurface  
19          disposal?

20                        MR. ALLAN:   Colin Allan for AECL.

21                        The Waste Technology Business  
22          Unit, which is the successor to the Canadian  
23          Nuclear Fuel Waste Management Program, is  
24          continuing to do work on behalf of the utilities  
25          in support of geological disposal.   Some of that

1 work is done at the Whiteshell site and is  
2 expected to continue there such that it is  
3 compatible with the decommissioning activities,  
4 but a large fraction of that is done at a separate  
5 facility, the Underground Research Laboratory,  
6 which is not covered by the Whiteshell site  
7 licence. It is a separate facility. That  
8 facility remains in operation and is expected to  
9 remain in operation, again supported by the  
10 utilities, as long as the utilities or the  
11 successor to, if you like, the utilities waste  
12 management organization deems it is important to  
13 continue that operation.

14 MEMBER BARNES: So nothing that we  
15 are considering in this decommissioning is likely  
16 to impact the effectiveness of that other  
17 facility? That is what I was getting at.

18 MR. ALLAN: Not at the present  
19 time, no.

20 MEMBER BARNES: Okay.

21 MR. ALLAN: It is a separate  
22 facility.

23 MEMBER BARNES: Just, then, maybe  
24 three specific things.

25 If we come back to staff, on the

1 issue of training and then over the page in  
2 "Emergency Preparedness" you said -- this is on  
3 page 13 of the proposal of your CMD 02-H19 under  
4 "Assessment":

5 "Commission staff has not  
6 recently conducted an  
7 evaluation of training  
8 programs specific to  
9 Whiteshell labs." (As read)  
10 When was the last time that these  
11 were done?

12 MR. HOWDEN: Barclay Howden  
13 speaking.

14 I don't have the exact date, but  
15 the main AECL programs that were assessed that  
16 these are based on were assessed within the past  
17 three years. But the last time Whiteshell  
18 specific, I don't have that. I will bring that  
19 back for Day 2.

20 MEMBER BARNES: If I turn over to  
21 page 14 under "Emergency Preparedness", the same  
22 section "Assessment", it says:

23 "Staff last evaluated the  
24 Whiteshell emergency  
25 preparedness program in



1                                   December 1999." (As read)  
2                                   That is basically three years ago.  
3                                   You conclude at the bottom of that  
4 staff report to the Commission on the reevaluation  
5 in a proposed mid-point report, which is a further  
6 three years hence.

7                                   My question is: That would be  
8 essentially a six-year period from the last time  
9 you did it to the time you report to the  
10 Commission. Is this adequate under this  
11 particular EP issue?

12                                  MR. HOWDEN: Barclay Howden  
13 speaking.

14                                  In 1999 that was the evaluation of  
15 an emergency exercise, which was the last time we  
16 had done an on-site evaluation. However, we have  
17 done plan evaluations, document reviews since that  
18 time. We currently have the Revision 5 of the  
19 emergency plan which is referenced in the licence.

20                                  So we haven't not done anything  
21 with emergency preparedness since then.

22                                  Also, there has been ongoing  
23 discussions on fire protection which we view could  
24 be the event that could provide enough energy that  
25 could have off-site impacts on the off-site area

1           and we have been doing a lot of work on that  
2           particular one.

3                           Because there is not a lot of  
4           stored energy on the site right now because there  
5           is no high pressure loops with radioactive  
6           material in it, but we view fire as one of the  
7           critical issues and we have been dealing with that  
8           as a separate issue and we have put in a new fire  
9           licence condition which is part of the standard  
10          set of licence conditions that we have been  
11          putting in all the major facilities. For this one  
12          we are just proposing a single condition because  
13          it is more applicable to a site going into  
14          decommissioning.

15                          With regard to fire, we are going  
16          next month to do an evaluation because we see that  
17          as a critical issue that is linked with emergency  
18          preparedness.

19                          The other thing that has been done  
20          is Whiteshell has maintained a full fire  
21          complement of staff to be able to handle any on-  
22          site fire. They haven't reduced there.

23                          So the impression may be we  
24          haven't been looking at it, but we have been  
25          looking at it a little more than the impression

1           that is given.

2                                 MEMBER BARNES:  A different topic,  
3           that is the aspect of environmental monitoring.

4                                 On several of the slides shown by  
5           AECL they referred to analysis of river sediments.  
6           When one looks in the document for any kind of  
7           information on the nature of sampling, and so on,  
8           there is very little in there.

9                                 For example, on page 17 discussion  
10          of AECL sampling water at four locations, one  
11          upstream, three sites at various distances  
12          downstream, that is about the total amount of  
13          information I think I gleaned from the document.

14                                Again, I have to worry about the  
15          statistical validity of things like this I think,  
16          because there is no information from the proponent  
17          and you are providing a summary.  I have no  
18          information whether this is adequate or not or the  
19          scale of potential contamination.

20                                Presumably one is not only just  
21          interested in the sediments but the biota, the  
22          impact on the biota, and I think there is only one  
23          small reference to biota and I don't think it  
24          appeared in any of the AECL slides.

25                                I understand that it may not be a

1           problem, I am just saying that for the information  
2           being given I am not sure that we are shown  
3           adequately that it is not a problem and there is a  
4           sufficient sampling mechanism and timing of that  
5           in place, or no results or very few results on  
6           previous analyses.

7                            Maybe both groups would like to  
8           comment.

9                            THE CHAIRPERSON:  Let's start with  
10          the licensee, please.

11                           MR. ALLAN:  Colin Allan, Atomic  
12          Energy of Canada Limited.

13                           Much of the information that you  
14          are referring to is contained in the comprehensive  
15          study report.  I would like to turn over to Mr.  
16          Helbrecht to give you a summary of that  
17          information if I may, please.

18                           MR. HELBRECHT:  Bob Helbrecht, the  
19          former Director for WL Decommissioning Program.

20                           As part of the environmental  
21          assessment process that was in fact one of the  
22          issues that was raised relative to contamination  
23          in the Winnipeg River as a result of our releases  
24          to the outfall system through operation of the  
25          aqueous liquid waste treatment centre, which

1 collected waste from all the facilities at the  
2 site and sampled and then released to the river  
3 within regulatory limits.

4 The issue that was raised was  
5 exactly the one you have just commented on: What  
6 is the impact on biota in the local area? How  
7 much contamination is collected at the outfall?

8 In order to answer that question  
9 we carried out a very detailed study in the fall  
10 of 2000. What we did is, we put divers in the  
11 river, we selected a cutoff level based on Health  
12 Canada's no effect level standards, which lay out  
13 a process where there is a hyper conservative  
14 level of 35 times background and a less  
15 conservative one of 350 times background, which  
16 are identified as no effect levels.

17 In doing our monitoring we chose a  
18 cutoff level of 10 times background. By putting  
19 divers in the river and taking a grid reading  
20 across the bottom over that entire area we  
21 identified that there was contamination higher  
22 than 10 times background in an area 20 metres wide  
23 by 80 metres downstream from where the pipe enters  
24 the river. The background levels were recorded  
25 upstream of that location.

1                   We further collected surface  
2                   sediment from the area -- although it is a scoured  
3                   bottom so there is very little surface sediment --  
4                   and we took several deep cores -- deep cores being  
5                   up to 50 centimetres in depth -- and analyzed  
6                   those to see what the distribution of  
7                   contamination was and then related that back to  
8                   the readings that we had taken across the bottom.  
9                   We were able to determine that there was 1.3  
10                  gigabecquerels of collected radioactivity in that  
11                  20 metre by 80 metre area and that it was  
12                  primarily cesium 137.

13                  We then further carried out an  
14                  analysis of what the impact of that amount of  
15                  contamination spread over that area would be.

16                  The primary receptor being clams,  
17                  we collected, as part of that process, clams and  
18                  analyzed them.

19                  The conclusions of the evaluation  
20                  were that there were in fact no impacts on aquatic  
21                  biota in the area and that there were no pathways  
22                  to humans that were credible and could result in  
23                  any impact. So the evaluation said it was  
24                  feasible to leave that activity in place.

25                  The other thing I might comment on

1 is that the 1.3 gigabecquerels that we identified  
2 as collected in the area represents a tiny  
3 fraction of the radioactive aqueous waste that was  
4 released to the river, in fact it is about 1 per  
5 cent of the higher years of release.

6 So in fact the outfall station  
7 operated exactly as it was intended. It was to  
8 release radioactively contaminated water through  
9 that system into the river within a planned  
10 process and within regulatory limits and to  
11 disperse it, and in fact that is exactly how it  
12 functioned.

13 MEMBER BARNES: Does staff wish to  
14 comment?

15 MR. HOWDEN: Yes. Barclay Howden  
16 speaking.

17 We acknowledge that there is a  
18 lack of information available to you right now.  
19 Much of the information is in the CSR, which we  
20 will make available to you. Also, the follow-up  
21 program on the environmental assessment to  
22 continue to monitor this is in the licence.

23 I would also like to ask Dr.  
24 Thompson for a brief comment as well.

25 DR. THOMPSON: Good morning. My

1 name is Patsy Thompson, I am Director of the  
2 Environmental Protection and Audit Division.

3 Just to provide a little bit of  
4 additional information, the environmental  
5 monitoring data that is provided in the CMD is  
6 related to the radiological environmental  
7 monitoring program that is currently in place at  
8 Whiteshell and is directed towards ensuring that  
9 doses to members of the public are below  
10 regulatory limits.

11 Because AECL, at the Whiteshell  
12 facility, was moving from operational to  
13 decommissioning, we did not feel it was warranted  
14 over the last couple of years to request that AECL  
15 put in place a monitoring program for the  
16 operational phase, given the fact that the follow-  
17 up program was being developed and would be put in  
18 the decommissioning licence.

19 But the additional information  
20 that you request is in the comprehensive study  
21 report and addresses the issue of impacts on non-  
22 human species.

23 MEMBER BARNES: Two quick specific  
24 questions.

25 What time of the year were the



1 divers working? Do you have a month?

2 MR. HELBRECHT: September.

3 MEMBER BARNES: What is the fate  
4 of the sewage lagoon, the long-term fate?

5 MR. HELBRECHT: The long-term fate  
6 of the sewage lagoon is closure, but it will  
7 operate for at least the next three to four  
8 decades to support the decommissioning activities  
9 on the site since there will be staff there and  
10 some level of decommissioning activity.

11 Ultimately, it will be closed in  
12 accordance with Manitoba sewage lagoon closure  
13 requirements.

14 A plan for it will be developed,  
15 is planned for Phase 2 of the decommissioning  
16 program.

17 MEMBER BARNES: Maybe just a final  
18 question to staff.

19 In this kind of process, as I  
20 think it was observed right at the beginning by  
21 AECL, the Commission has not had to this point in  
22 time many licence applications for  
23 decommissioning. We have been establishing things  
24 and monitoring and moving them along. So we are  
25 entering a phase where a number of major

1 facilities might come before us for  
2 decommissioning.

3 I would have thought that both an  
4 applicant, in this case AECL, and also the staff  
5 will also not necessarily have every appropriate  
6 trained individual or trained process, as far as  
7 decommissioning is concerned, sort of in place.

8 In the past when we have received  
9 new applications or gone into new areas, we have  
10 taken a rather precautionary approach, as it were,  
11 and had enough checks and balances. So I was a  
12 little surprised to see an application on your  
13 part for a six-year licence. That seems to me a  
14 rather long period of time when a number of new  
15 lessons on decommissioning, even though it is a  
16 modest scale facility, are in the process.

17 Could you remind us why you really  
18 think six years in this case and leaving to a  
19 designated officer to cover some of the points?

20 MR. HOWDEN: Barclay Howden  
21 speaking.

22 I think one of the key points, in  
23 terms of supporting the six years, was that the  
24 programs in place now that are working are going  
25 to be very similar or the same as the ones that go

1       into the future, the key support programs that  
2       AECL spoke about -- environmental protection,  
3       radiation protection, emergency preparedness --  
4       augmented by decommissioning-specific plans and  
5       programs.

6                       With regard to those, over the  
7       past two and a half years CNSC staff has done  
8       extensive review of various documents. Obviously  
9       the comprehensive study report was a key one, plus  
10      the overall decommissioning plan, the overview  
11      document. Plus, we have already looked at some of  
12      the other detailed decommissioning plans.

13                      At this point in time we are of  
14      the opinion that, as we go into the future, even  
15      though there will be changes, the in-place  
16      programs will deal with them. The DDPs are  
17      developed in sufficient detail that we can  
18      identify the hazards that are going to be faced.

19                      As well, we have a level of  
20      confidence that AECL is going to be vigilant. As  
21      well, we are going to be very vigilant, certainly  
22      going into this. That is why we have so many  
23      evaluations and audits planned initially. We want  
24      to see what happens early on to make sure that we  
25      catch any problems.

1                   Right now we have a pretty high  
2                   level of confidence that things will go well.  
3                   That was one of the main reasons.

4                   Also, at Whiteshell they have  
5                   performed very well over the past several licence  
6                   periods, and we don't see any negative trends with  
7                   regard to that.

8                   Another thing is we were trying to  
9                   coincide the licensing term with a distinct phase,  
10                  and we thought it made sense with what is going to  
11                  be happening over the next six years.

12                  There is sort of a recap with a  
13                  bit of an expansion of our reasons for supporting  
14                  the six years.

15                  THE CHAIRPERSON: I would like to  
16                  clarify expectations.

17                  Dr. Barnes, you mentioned at the  
18                  beginning your thoughts that there should have  
19                  been more documentation on the part of the  
20                  licensee in terms of this.

21                  I want to make sure that it is  
22                  clear that the responsibility to provide that  
23                  documentation for Day 2 resides with the licensee,  
24                  not with the staff. The staff have provided the  
25                  documentation.

1                   I would expect if the licensee  
2 requires any advice from the staff about how other  
3 documentation has been done, or whatever, I think  
4 that is appropriate. However, I do believe it is  
5 the licensee's responsibility -- in fact, I insist  
6 it is the licensee's responsibility to present the  
7 documentation on their side of the CMD. I just  
8 want to make that clear.

9                   My question is with regard to page  
10 10 of the staff's CMD, and it is 3.14, which  
11 regard to what is generally called conventional  
12 health and safety programs. There is a note about  
13 HRDC having been involved.

14                   I have one question with regard to  
15 that.

16                   HRDC I gather inspects this  
17 facility, because it is a federal facility versus  
18 the province. Is there an assessment by the  
19 licensee first and then the staff that the health  
20 and safety program may shift because of the  
21 decommissioning program?

22                   Can one make an assumption that  
23 what is in existence for the current operating  
24 program will go through Phase 1 of the  
25 decommissioning?

1                   Now I am talking about the 3.14,  
2 non radiological health and safety, particularly  
3 comments by AECL and then the staff, please.

4                   MR. ALLAN: Colin Allan. I think  
5 I would like the former Program Director, Mr.  
6 Helbrecht, to address that question.

7                   MR. HELBRECHT: I am not sure I  
8 understood that question entirely.

9                   THE CHAIRPERSON: In 3.14, page 10  
10 of the CNSC staff CMD, it says there that HRDC  
11 regulates this, and they have indicated their  
12 satisfaction with the program. Therefore, the  
13 staff has concluded that the program meets  
14 requirements.

15                   My understanding is that this  
16 would have been based on their evaluation of the  
17 operating program. We are now going into  
18 decommissioning.

19                   What is your assessment with  
20 regard to specifically this part of the health and  
21 safety program as we go through into Phase 1 of  
22 the decommissioning?

23                   MR. HELBRECHT: I think that would  
24 be a question better turned over to Ray Lambert.

25                   MR. LAMBERT: For the record, my

1 name is Ray Lambert. I am the Manager of site  
2 environmental and radiological protection.

3 I was for a time period the  
4 manager responsible for radiation industrial  
5 safety at Whiteshell, so I can talk a little bit  
6 from my past history.

7 The AECL, as you had mentioned, is  
8 legislated under the federal act, so we come under  
9 the HRDC. The program per se I do not envision  
10 changing, and the requirements of the HRDC we will  
11 still have to comply to.

12 What I expect will happen is the  
13 types of hazards will change as we move into a  
14 decommissioning mode. For example, we may be  
15 opening more tanks of some form. I am  
16 hypothesizing.

17 I would anticipate that, as we  
18 open up systems into the decommissioning, we will  
19 have to deal with the hazards that we are opening  
20 up into, and we will have to comply with the  
21 expectations or the requirements of the HRDC.

22 THE CHAIRPERSON: Staff?

23 MR. HOWDEN: Barclay Howden  
24 speaking.

25 With regard to HRDC, we do not

1 expect their requirements to change, that they  
2 will be there. With regard to process, from the  
3 CNSC standpoint the detailed decommissioning  
4 reviews look at all the hazards that are  
5 anticipated in the future.

6 So that is one way of seeing if  
7 there will be changes.

8 The second thing is that, as part  
9 of the joint review group review, HRDC is a member  
10 of the group. So as things change, there are two  
11 routes: their own program and the program through  
12 the joint review group as well.

13 MS MALONEY: It is Cait Maloney.

14 I would just clarify that the  
15 joint review group is a group of licence  
16 regulators and other licensing or interested  
17 bodies that will be keeping an eye on this on an  
18 ongoing basis. They do not just come in at  
19 licensing time. They will be part of compliance  
20 activities, as well.

21 THE CHAIRPERSON: Thank you for  
22 clarifying that. The word I should have used was  
23 "risks" to do with the decommissioning.

24 If there is more detail that you  
25 could give us for Day 2 with regard to the



1           anticipated risks that would fall into this  
2           specific area, I think that would be helpful for  
3           us; and, if appropriate, that an HRDC official be  
4           requested to attend.

5                           MR. KOROLL:   Grant Koroll,  
6           Decommissioning Director for Whiteshell.

7                           For information, HRDC has recently  
8           completed an inspection this spring at Whiteshell,  
9           and there are a number of items, the types of  
10          things they look at:  glove boxes containing  
11          asbestos, back flow devices on oxygen acetylene  
12          tanks, emergency lighting, electrical panels, any  
13          obstructions to these, the typical industrial  
14          hazards that they regulate.

15                          All of their items have been  
16          dispositioned and communicated in a letter at the  
17          end of July.  So there has been a recent  
18          inspection by HRDC, and these are routine as a  
19          part of their regulating these activities.

20                          They inspect whatever is going on  
21          at the time of the inspection now and in the  
22          future.

23                          As Barclay said, we do address  
24          these aspects in our detailed decommissioning  
25          plans as well.

1 THE CHAIRPERSON: What I am  
2 looking for is to look forward and to therefore  
3 get a sense, based on a risk-based look at this,  
4 of exactly what the Commission should be expecting  
5 in this area.

6 Dr. Dosman, did you have a  
7 comment?

8 MEMBER DOSMAN: Well, your  
9 questions really go to a number of questions I  
10 have in mind.

11 Obviously, use of personnel is  
12 different during decommissioning than during  
13 operation.

14 I was wondering whether plans have  
15 been worked out specifically to handle some of  
16 those differences.

17 Presumably, most of the staff are  
18 employees of AECL. With decommissioning, will  
19 contract labour be used; and if so, how will we be  
20 assured that the health and safety of contract  
21 labour be appropriately met?

22 Does the manual that is coming  
23 deal with this kind of issue?

24 MR. ALLAN: Perhaps I could start  
25 and then turn it over to Mr. Lambert.

1                   Decommissioning work is not  
2                   fundamentally different from maintenance work. As  
3                   part of operations, we have been maintaining  
4                   facilities at Whiteshell and at our other sites on  
5                   an ongoing basis. The difference between  
6                   decommissioning and maintenance is that when  
7                   maintenance work is done, you do decontamination  
8                   type activities, you remove some components of a  
9                   system and replace it with another component. You  
10                  bring the facility back into operation.

11                  In this case we are doing  
12                  maintenance type work but to put the facility in a  
13                  safe state where it can be left under monitoring  
14                  and surveillance for an extended period of time.  
15                  So the nature of the work is not fundamentally  
16                  different from the nature of the work that is done  
17                  in operating facilities.

18                  We have experience with this type  
19                  of work, both at Whiteshell and at our other  
20                  facilities.

21                  Second, as you rightly note, much  
22                  of the work will be executed by AECL staff, in  
23                  large part because they are familiar with the  
24                  facilities and understand the nature of the  
25                  facilities.

1                   Before undertaking work, either if  
2 we were still operating or now as we are doing  
3 this decommissioning type work, we do produce  
4 detailed work plans that are reviewed very  
5 carefully to identify what the risks are, what the  
6 potential risks are, and to identify methodologies  
7 to minimize those risks. We put the health and  
8 protection of our staff at a very, very high  
9 level.

10                   Any contract staff working on our  
11 site come under our general site provisions and  
12 are supervised by AECL and have to be adequately  
13 trained before they would undertake any specific  
14 activities.

15                   If we were to use contract staff,  
16 it would be for specific areas of work where the  
17 contractor would have an area of speciality. The  
18 most likely place to use contract staff would be  
19 to do building demolitions on buildings that have  
20 not been involved with radioactive work, and  
21 before doing that work we would undertake a very  
22 detailed radiological survey to confirm that there  
23 were no radiological hazards present in the  
24 building.

25                   I can ask Mr. Lambert if he would

1           like to add anything further to that comment.

2                           MR. LAMBERT:   Ray Lambert, Atomic  
3           Energy Canada Limited.

4                           I don't really have much to add.  
5           It is in the current programs, as Colin Allan had  
6           indicated, that when contractors are brought on  
7           site there are processes in place that control  
8           their activities and ensure their qualifications.  
9           When work is planned, it is done under work  
10          planning processes where the hazard is identified,  
11          and appropriately qualified individuals are  
12          assigned to the hazards.

13                          I really don't have much more to  
14          say to what Mr. Allan has already said.

15                          THE CHAIRPERSON:   Thank you very  
16          much.

17                          This then brings to the end the  
18          question period for this hearing.   This hearing  
19          will be continued on the 14th of November, 2002  
20          here in the CNSC offices.

21                          The public is invited to  
22          participate, either by oral presentation or  
23          written submission on Hearing Day Two.   Persons  
24          who wish to intervene on that day must file  
25          submissions by October 15, 2002.

1                                   This hearing is now adjourned to  
2           November 14, 2002.