Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Public Meeting

Réunion publique

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Le 27 juin 2002

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

Commission Members present

Ms Linda J. Keen, President
Dr. Yves M. Giroux
Mr. Alan R. Graham
Ms Letha J. MacLachlan

Commissaires présents

Mme Linda J. Keen, présidente
M. Yves M. Giroux
M. Alan R. Graham
Mme Letha J. MacLachlan

Secretary: Mr. Marc A. Leblanc

Secrétaire: M. Marc A. Leblanc

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Ottawa, Ontario

--- Upon resuming on Thursday, June 27, 2002
at 3:15 p.m.

02-M40

Opening Remarks

THE CHAIRPERSON: Ladies and gentlemen, could I ask you to please take your seats.

MR. LEBLANC: Good afternoon, ladies and gentlemen. Welcome to today's meeting of the Canadian Nuclear Safety Commission.

Mon nom est Marc Leblanc. Je suis secrétaire de la Commission et j'aimerais aborder certains aspects touchant le déroulement de la réunion.

There is simultaneous interpretation to facilitate communications in both official languages. If you would, please keep the pace of speech relatively slow so that translators have a chance of keeping up and hence communicating to everyone.

Des appareils de traduction sont disponibles à la réception. Les versions anglaise et française sont respectivement aux postes 7

et 8. Les transcriptions devraient être disponibles sur le site web de la Commission dès la semaine prochaine.

To aid those transcripts and make them as meaningful as possible we would ask everybody to identify themselves clearly before speaking so that the transcripts are as complete and clear as possible.

La réunion de la Commission est enregistrée et transcrite textuellement. La transcription se fait dans l'une ou l'autre des langues officielles compte tenu de la langue utilisée par le participant à la réunion.

Please silence your cellphones.

Madame Keen, présidente et première dirigeante de la Commission, va présider la réunion d'aujourd'hui.

Madame Keen.

THE CHAIRPERSON: Good afternoon and welcome to the meeting of the Canadian Nuclear Safety Commission.

I would like to introduce the members of the Commission that are with us today. On my right is Ms MacLachlan; on my left are Dr. Giroux and Mr. Graham.

In addition to Mr. Leblanc, the Secretary of the Commission, Ms Irene Gendron is with us, the Legal Counsel to the Commission.

I would like to remind you that the Commission is still on enhanced security status, as are many of the facilities which we regulate, and as such I will as appropriate take measures to ensure that security matters of a sensitive nature are not discussed in public. We will, if necessary, move in camera at any time for discussions on security matters.

I would like to start by calling for the adoption of the agenda as noted in CMD Document 02-M41.B. I would like to ask the Secretary of the Commission to read the list of supplementary documents that have been added to the agenda since its publication on June 12.

Mr. Leblanc.

M. LEBLANC: Merci.

Three CMDs were added to the agenda after publication on June 12: CMD 02-M43.A, Significant Development Report No. 2002-5, supplementary information filed by CNSC staff; CMD 02-M44.A, Status Report on Power Reactors, supplementary information filed by CNSC

staff; CMD 02-M49.A, Nuclear Security: Review of CNSC Order 01-1, supplementary information filed by CNSC staff.

02-M41/02-M41.A/02-M41.B

Adoption of Agenda

THE CHAIRPERSON: With the reading in of those supplementary CMD documents, may I have the agreement of the Commission Members on the adoption of the agenda?

For the record, there is agreement.

02-M42

Approval of Minutes of Commission Meeting Held May 22 and 23, 2002

THE CHAIRPERSON: I will now call for the approval of the minutes of the Commission meeting held May 22 and 23, 2002. The minutes are outlined in document CMD 02-M42. Are there any comments, additions or deletions that the Commission Members wish to make to the draft minutes?

We have approval. Approved.

02-M43/02-M43.A

Significant Development Report No. 2002-5

THE CHAIRPERSON: The next item on the agenda is the Significant Development Report No. 2002-5 as outlined in documents CMD 02-M43 and CMD 02-M43.A. I would like to call upon the Director General, Directorate of Nuclear Cycle and Facilities Regulations to begin the report.

Ms Maloney.

MS MALONEY: Good afternoon, Madam President. I am Cait Maloney, Director General of the Directorate of Nuclear Cycle and Facilities Regulation.

We have no supplementary information to that which is before you on the McArthur River operation raise borer issue. We are available to answer questions on that.

I will also note that the licensee is available and has indicated they will respond to questions as well.

We had invited Saskatchewan Labour to participate in this. Unfortunately, they were not able to do so.

At this time I would also ask that after we have dealt with that issue, Mr. McCabe

would like to update you on the forest fire situation at McArthur.

THE CHAIRPERSON: Perhaps I just should read into the record that the Significant Development Report, 2002-5, is titled "CAMECO Corporation: Repeated Failures of the Raise Borer Drill Strings at McArthur River Operation". That is for the record.

Are there any questions from Commission Members with regard to this report?

Dr. Giroux?

MEMBER GIROUX: Yes. Do we have somebody from CAMECO here? Yes, maybe you would be the one to answer. I have just one or two technical questions to help my understanding of what happened.

The question is: what is the mode of separation between the head of the reamer and the rods? Is that a thread failure? Could you explain that?

MR. JARELL: Yes, I could. I think our current thinking is that this is a fatigue failure. It occurs at threaded joints, close to the reamer head. It is brought on we think by sort of off-centric loading on the reamer

head.

I have a number of slides here that could sort of walk you through, just to give you some sense of just what the issue here is, if you care to see those.

THE CHAIRPERSON: Mr. Jarrel, would you mind identifying yourself for the record, please.

MR. JARREL: My apologies. I am John Jarrel, Vice-President, Environmental Safety for CAMECO Corporation.

So with your indulgence, I could just go through a few slides here and just give you a bit of a sense on this or a little briefing, if you so desire.

This first slide shows basically the raised format. Let me just go back a couple here.

The first thing we do is we drill a pilot hole from the upper chamber down to the lower chamber. The next step of course is the actual raised boring. You may recall, you have seen this sort of pictorial I think during the relicensing about six months ago.

Anyway, we ream up through waste

rock first and then the ore. When we reach the ore then we drop the reamer head back down to the lower level.

The next step in this process is to put in a high strength concrete plug at the bottom and then finally to fill the void with lower strength concrete from the top.

This picture shows the upper level. You can see the freeze holes and in the background there you can see this actual drill.

Here is a close-up picture of the drill again from the top level. This next picture here, I think what is important here is to look at -- in the foreground here is the actual drill rods. These drill rods are about 11 inches in diameter. They weigh about 1,200 pounds a piece. They have a centre hole in the middle of them.

What we do is we attach the reamer head at the bottom using these drill rods. We just progressively add to these up to I think a maximum depth of about 120 metres. These are about five feet long each.

This is a picture of a reamer head. There are two types we use. There is one that is an eight foot reamer head. The other one

is 10 feet. This shows the 10 foot reamer. You can see the various cutter heads on the device. In the centre is the stem.

One of the primary failure points on this thing is on that stem right at the top of the thing, the threaded joint up there.

Here is another picture, just another close up of one of these reamer heads before it is put onto the drill string.

This picture here shows the actual process of putting the reamer head onto the drill. What we have is we put this thing in a scooptram bucket and then we are just basically torquing this on to the drill string before we start the raised boring.

You have probably seen this picture before when we considered relicensing last year. This is a picture of the ore collection chute and the scoop tram underneath it to collect the ore. What we do is we basically mine for upwards of typically about 30 centimetres and then stop the process when the bucket is full of ore.

Here is a picture again at the bottom of the thing with the scoop tram removed. You will notice there is quite a bit of styrofoam

up top just to provide a seal at the top of the -- sort of at the raise there.

Of course the whole process is one of remote scoop trapping, as we have mentioned before.

This shows a picture of sort of the strategy of drilling. What we are currently drilling is right in this area here. This will be about row 20. You can see that the emphasis obviously is to overlap these holes to some extent. We believe that is part of the issue with the reamer head failures as well.

Here is a picture of a failure. What you see here is a reamer head that has fallen. You can see that some of the stem is still attached to the thing. You see that it has sat down on this ore collection chute and actually dislodged it and can crush the legs on it somewhat.

Here is another picture of the same one just taken from a slightly different angle just to give you sort of a sense of the issue that we have here.

As the significant development report indicates, there has been 18, I think there

is 19 now, of these incidents that have occurred. It is a fairly frequent event, and certainly this is one that is getting some priority obviously from a mine engineering perspective to try to reduce that frequency.

Basically, what this diagram shows is the location of the failures. It is basically at the threaded joints, as I indicated, basically right here where sort of the stem, if you will, of the raised bore attaches to the drill string.

There is what is called a stabilizer section, which is the first section of pipe here. This is basically a rib section. This also had quite a few failures here.

Over the last couple of years, we have actually had a couple where we have actually unscrewed these things. You can imagine a hundred metre of drill steel. If you torque the thing up it acts as a bit of a torsion bar and if the thing lets go it can actually unwind the threads, which has happened on a couple of occasions.

These things are torqued up to about 150,000 foot pounds, so this is no sort of trivial force here.

In any event, here is just another

close up of one of these raised bores. You can see there is a series of cutterheads. One of the issues when I talk about off-centric loading is the fact that if you lose some of these cutterheads obviously the thing loses balance and puts extra forces on those threaded connections, particularly the ones that are closest to the reamer head because that is the ones that see the most force.

The other sources of off-centric loading are in the process of what they call sumping in the reamer head. This is where you first start. You can imagine that if you have a hole that is on sort of a 60 per cent dip, when you first start to cut it of course you get some pretty strong, dynamic forces on this thing.

I think the third reason we see this sort of dynamic loading is the obvious difference in strength between the quartzite and the sort of soft concrete below the ore and the difference between sort of this mud-like ore and the concrete above. So there is a fair number of dynamic forces on this thing which all sort of focus on these threaded joints.

Here is a picture of some of the

failures. You can just sort of get a sense of this thing. What it is doing is just basically shearing this 11-inch drill's stabilizer.

You can see here is another one where it has actually sheared off right inside the threads.

Here is another one. What I would point out to you is this whole in the middle, which is instrumental here in a couple of slides.

Finally, here is just another one again showing just sort of the -- all of these failures seem to occur right at these threaded joints.

My final slide here is what we have tried to do to try to control this a little bit better in the interim is to put in what we call a reamer catcher, which is essentially a 1/4-inch diameter steel rod which goes up through that centre hole and just sort of anchor bolts the thing so that if the joint fails it will actually catch this reamer so that it doesn't sort of come down all of a sudden.

We are one for one using this device so this is pretty formative.

I think the significant

development report indicates some of the things we have done. We have other plans. Obviously this is sort of an ongoing effort to try to reduce the frequency of these failures. We can discuss that if you would like, but I think that is just sort of a snapshot of the issue here.

THE CHAIRPERSON: Does that answer your questions? Good.

Any further questions?

Mr. Graham?

MEMBER GRAHAM: My question is: there has been no accident or no bodily harm to anybody yet, hopefully, has there?

MR. JARREL: No, there hasn't. There are really sort of three issues here. There is obviously the conventional safety issue of these things dropping. There is also the issue of course of rock coming down out of an open hole.

There is what I call sort of the conventional or chronic radiation exposure, which is the amount of time you spend in proximity to the ore.

Then the third issue we are trying to deal with obviously is just what I would call acute or accident-type radiation protection, which

is you don't want people collecting doses from radon, so that is why we have this ventilation system and so on.

The only accident that has occurred this year on reaming actually occurred when we were putting a backfill gantry in and a rock came down the hole, missed the backfill gantry because it was slightly out of place, and it rolled and broke someone's ankle. That was the only issue we have had but that is not related to a reamer failure.

THE CHAIRPERSON: Ms MacLachlan?

MEMBER MacLACHLAN: Thank you.

Do I understand that you are still carrying on with operations. You are still operating reamers, a reamer.

MR. JARREL: Yes, this the mining method for this what we call zone two or the main area of the ore.

What we are trying to do obviously is reduce the frequency of these reamer failures, but I would stress that the key point of this thing is just to keep people out of harm's way. That is why one of the great advantages obviously of remote mining is the fact that you keep people

30 to 50 metres away from the activity when you are actually mining.

MEMBER MacLACHLAN: How many reamers do you have on site?

MR. JARREL: We have five drills and I don't really know the total number of -- there is obviously at least five reamer heads. I think there is more because we have kind of gone through a process of obviously -- that is one of the key points is: is one reamer better than the other? There are sort of two main suppliers we have and we have kind of changed some of these things out. We have some that are eight foot, some are ten foot, but I can't -- it is obviously more than five but I don't know the total number.

MEMBER MacLACHLAN: Have the reamer heads incurred any damage or is the damage all to the pipes?

MR JARREL: When they come down they seem to be missing some of the cutter heads, these tungsten-carbide bits on the thing. We are not certain obviously whether the failures occur which sort of precipitate this off-centric loading, whether that is part of the problem, or whether they fall off on the way down. It is

not clear.

What we obviously are doing, we hired a position called raise bore foreman just to try to start tracking this. Obviously the more we can learn about these things -- for example, we want to know when we find individual cutterheads in the grizzly we want to know about that, so we are trying to track this thing down.

We do find occasionally cutterheads missing as well as having to replace the stem.

MEMBER MacLACHLAN: I notice in CMD 02-M43.A that staff was expecting an application for a change to the licence by the end of June. This is June 27. Is an application still anticipated for the --

MR. JARREL: The plan was to file it this week, but a little forest fire got in our way I think so it is probably next week.

What we would like to try is we think we can -- what we would like to do is get rid of the ore collection chute, at least on a trial basis, and actually put the ore directly onto the floor and then pick it up on a scoop tram. The advantage of that from this perspective

is the fact that I think we could probably reduce the number of times we have to stop and start, which again I think adds extra force on this reamer head.

But the main driver for trying a test without the ore collection chute is to try to reduce the chronic radiation exposure. Part of this submission is we will make the case hopefully that we can actually reduce the chronic radiation exposure by our estimate upwards of 45 per cent if we actually got rid of the ore collection chute.

Time will tell. Obviously our calculations have to be evaluated by the staff but we think that this is worth looking at from the perspective of just reducing chronic radiation exposure.

You may recall that during the relicensing we indicated that we wanted to focus on the radiation exposure of some of the most highly exposed workforce, that is, these raised bore operators, and this is part of that initiative.

MEMBER MacLACHLAN: Thank you.

THE CHAIRPERSON: In order to ensure the transparency of the Commission, I would

like CAMECO to provide, if you would agree to, a copy of the slides and we would assign these a CMD number. The suggestion is CMD 02-M43.A1 for those who may wish to access this at some point.

Thank you very much.

We now will move to the next -- oh, yes, the forest fire report. Sorry. Thank you. The forest fire report.

MR. McCABE: Thank you.

Rick McCabe, Director, Uranium Mines and Lands Evaluation division. We would just like to update the Commission on the forest fire in close proximity to McArthur River.

Yesterday morning we received notification that there was a fire in the area, that the mine site visibility was getting poor, the airport had been shut down and that the only means of moving out of there was via the road between McArthur River and Key Lake.

We have had about two updates since that time. Yesterday morning a Saskatchewan environment and conservation officer arrived on site to take charge of directing the fire fighting. They were implementing more fire breaks in close proximity around the mine site and

protecting key areas.

They evacuated 110 employees to Key Lake, which is some 80 kilometres from McArthur to Key by road, and they kept approximately 60 people on site to do the work that was necessary to keep the plant operating and to continue with doing the fire breaks, wetting down areas and things of that nature to protect the facility.

3:35 P.M.

As of this morning and this afternoon, last night the fire slowed down in its progress. It had been progressing toward the site, but it slowed down in its progress and conditions had gotten better. I guess the wind had died down and it did not progress a lot.

They are setting up equipment to provide fire protection of the buildings, et cetera, if required. But as I understand just prior to this meeting, the most recent update is that the airport will be reopened and staff will be going back in there because the fire has slowed. I just wanted you to be aware of that.

THE CHAIRPERSON: Thank you very much.

We will now move to Item No. 5, Status Report on Power Reactors, as noted in CMD documents 02-M44 and 02-M44.A and call upon an oral presentation from staff. Mr. Blyth.

02-M44/02-M44.A

Status Report on Power Reactors

MR. BLYTH: Thank you very much. For the record, my name is Jim Blyth.

I will briefly go over the key points in the status report. The unit that was shut down at Pickering to inspect the turbine generator spindle has been returned to service. The spindle that was removed did not show any evidence of cracking and plans are in place to inspect other turbine spindles and OPG has not yet determined the root cause of the cracked blades.

NB Power presented information on their restructuring, so I do not propose to speak to that.

In the addendum, this 44.A, the SLAR incident at Bruce B where both the pressure tube and the calandria tube were breached during the course of relocating garter springs in the fuel channels, Bruce Power is now proceeding with

repairs. We do not have a lot of additional information on that at this time.

Staff has contacted Bruce Power to solicit assurances that there were not any malfunctions with the SLAR tool that may have damaged the other fuel channel that were being put through this process during the outage. The unit will not restart until we have that assurance.

There are staff from Bruce Power and OPG in the room as well, I believe, if the Commission members have any questions.

THE CHAIRPERSON: Thank you very much.

Are there any questions or comments from the Commission members with regard to the staff?

Thank you very much, Mr. Blyth.

We will now then move to the Status Report on Atomic Energy of Canada Limited: Approval to Restart Commissioning of the MAPLE 1 and 2 Reactors. As noted, CMD document 02-M45. We will turn to the oral presentation by CNSC staff and Mrs. Maloney.

02-M45

Status Report on Atomic Energy of Canada Limited: Approval to Restart Commissioning of the MAPLE 1 and 2 Reactors

MS MALONEY: Thank you, Madam Chair.

I am Cait Maloney, Director General of the Directorate of Nuclear Cycle and Facilities Regulation. With me today are Mr. Barclay Howden, Director of the Research Facilities Division and Mr. Bruce Pearson, Project Officer for the MAPLE reactors.

At the December 13, 2001 Commission hearing on the MAPLE reactors the Commission directed staff to provide a status report on licensing prerequisites and progress to date at each regularly scheduled Commission meeting until staff had authorized resumption of commissioning at MAPLE 1 and fuel loading at MAPLE 2. The authority to make this authorization was granted to CNSC staff by the Commission at that hearing.

The CMD in front of you constitutes the fourth status report. I will now turn the presentation to Mr. Pearson who will

provide you with an update on progress since the CMD was submitted.

MR. PEARSON: Thank you.

Madam Chair and members of the Commission, for the record, my name is Bruce Pearson, Project Officer for the MAPLE reactors. CMD 02-M45 is the fourth report to the Commission on the status of the prerequisites identified during the December 2001 hearing. I do not intend to address any of the issues reported in the CMD. However, I would like to report that all issues are progressing as planned, with only minor delays being experienced in a few areas. We consider a minor delay to be two weeks or less.

Since the last status report, AECL has made satisfactory progress in meeting the prerequisites established for restart of the MAPLE 1 reactor and for loading fuel into the MAPLE 2. CNSC staff will provide a further update on progress at the September 2002 Commission meeting.

That concludes my presentation. Thank you.

THE CHAIRPERSON: I would just like to ask Mr. Labrie from AECL if he could approach the microphone. I just wanted to ask if

he has had an opportunity to review this report and if he has any comments on it?

MR. LABRIE: I have reviewed the CMD and it is true that there has been some slippage, both in the review of our submissions and ourselves in completing some of the work related to meeting the prerequisites.

THE CHAIRPERSON: Are there any questions from Commission members with regard to this status report?

Dr. Giroux.

MEMBER GIROUX: Just one question to staff, in your report under 2.3 you are discussing control absorber rods and you are discussing problems with stepper motor and saying that this will not affect the safety and reliability, but will affect the operational reliability. Does that mean that the rods will continue falling down and with other problems and the stepper motor is to raise the rods after they have gone down? Am I interpreting this correctly? If not, please correct.

MR. PEARSON: For the record, my name is Bruce Pearson, Project Officer for the MAPLE reactors.

Yes, the stepper motors -- the control absorber rods have two functions; one is part of the reactor regulating system and the other is part of safety system two.

The stepper motors are used in the reactor regulating system function to raise and lower the rods, but the safety system action is independent of the stepper motors. The control absorber rods fall into the core under gravity on the release of the magnetic clutch.

So the problem with the stepper motors is tied to more operational considerations than safety.

MEMBER GIROUX: And these are problems that you expect to be solved at some time during commissioning?

MR. PEARSON: Yes.

THE CHAIRPERSON: Other questions?

Then we will move to Item 5.3, Status Report on Atomic Energy of Canada Limited: Approval to Commence Active Commissioning of the New Processing Facility, 02-M46. Again I will turn to the oral presentation by CNSC staff and Mrs. Maloney.

02-M46

Status Report on Atomic Energy of Canada Limited: Approval to Commence Active Commissioning of the New Processing Facility

MS MALONEY: Thank you, Madam Chair.

I am Cait Maloney, Director General of the Directorate of Nuclear Cycle and Facilities Regulation. With me today are Mr. Barclay Howden, Director of the Research Facilities Division and Mr. Stephen Cook, Project Officer for the New Processing Facility.

At the December 13, 2001 Commission hearing on new processing facility the Commission directed staff to provide a status report on licensing prerequisites and progress to date of each regularly scheduled Commission meeting until CNSC staff had authorized commencement of active commissioning of the new processing facility. The authority to make this authorization was granted to CNSC staff by the Commission at that hearing.

The CMD before you constitutes the fourth status report and I will now turn the presentation over to Mr. Cook who will provide you

with an update on progress since the CMD was prepared.

MR. COOK: Madam Chair, members of the Commission, my name is Steve Cook. I am Project Officer for the New Processing Facility. The following is an update of the status of prerequisites since CMD 02-M46 was filed.

On June 14, 2002, AECL submitted the Phase A Commissioning Completion Assurance of NPF.

CNSC staff have initiated their review and scheduled completion for June 28, 2002.

All other issues are progressing as planned with only minor delays being experienced in a few areas. We consider a minor delay to be two weeks or less.

Since the last status report, AECL has continued to make satisfactory progress towards completion of the prerequisites to commence active commissioning of the New Processing Facility.

CNSC staff will provide an update on progress on the remaining items at the September 2002 Commission meeting. Thank you.

THE CHAIRPERSON: Thank you.

The same question to Mr. Labrie with regards to AECL's knowledge of this report and do you have any comments?

MR. LABRIE: I have reviewed the report and it is true that there has been some slippage in some of the reviews. AECL has requested from the CNSC staff the authorization to start the active commissioning in the new processing facility because we believe that we had completed several of -- well, the prerequisites.

THE CHAIRPERSON: Comments, Ms Maloney, on that?

MS MALONEY: Staff is reviewing the requests that we have just received from AECL and we will update you at the next meeting.

THE CHAIRPERSON: Thank you very much to all of you.

We will now move to the Information Reports portion of the meeting. We will turn to Item 6.1 which is the Cancer and General Mortality in Port Hope Study, 1956 to 1997 as contained in CMD document 02-M47. I will turn it over to Mr. Blyth and his staff.

02-M47

Cancer and General Mortality in Port Hope, 1956-1997

MR. BLYTH: Good afternoon. Again, for the record, my name is Jim Blyth. I am the Director General of Power Reactor Regulation, but I also have the privilege of working with the CNSC's experts on radiation protection. We are here today to present for your information a study sponsored by the CNSC staff and carried out by Health Canada on our behalf, concerning general mortality and cancer mortality in the Town of Port Hope for the period from 1956 to 1997.

With me today is Mr. Rod Utting, the Director of Radiation Protection and Environmental Compliance Division; and Ms Rachel Lane who is the CNSC epidemiologist and a member of Mr. Utting's division; also Mr. Robert Semenciw of Health Canada who I believe was the principal author of this report.

With that I would now like to ask Ms Lane to present the report. Thank you very much.

Oral Presentation by CNSC staff

MS LANE: Good afternoon, Madam President and Commission members. I am Rachel Lane, CNSC's epidemiologist. I am the project manager for the project, Cancer and General Mortality in Port Hope, 1956 to 1997.

As an overview of today's presentation I will be discussing the following for your information: as a general background some residents of Port Hope have expressed concern about possible adverse health effects in Port Hope as a result of radium and uranium processing industries in the town since the 1930s and the local disposal of radioactive and heavy metal wastes in the town.

Numerous studies have taken place in Port Hope to study both the levels of contamination in the town and the health status of the community. Recently, the CNSC released a cancer incidence study on Port Hope in August 2000. Overall the cancer incidence in Port Hope was no different from the rest of Ontario, although some increases and decreases occurred when examined by cancer type, time period and sex.

The objectives of the current

study are to, number one, extend the cancer mortality analysis to an earlier time period, from 1956 to 1997, which is 42 years of mortality.

Second, to examine results of cancer and all other major causes of death.

Third, to compare the cancer mortality results with the previous cancer incident study.

This and the cancer incident report descriptive studies, this type of study studies the amount and distribution of disease within a population by person, place and time. Thus the current studies are designed to answer the question are there more or less cancers in Port Hope than what one would expect based on the age and sex of the people who live there.

The materials and methods are standard and directly related to the main objective which is to compare the mortality in Port Hope with that of the entire Province of Ontario. These are not analytic studies. Analytic studies study the determinates of disease or reasons for relatively high or low frequency of disease in specific groups. These type of studies would attempt to answer the question what factors

are linked or associated with the risk of a disease.

The study was conducted by Health Canada scientists as part of a mandate for national disease surveillance. The researchers who conducted the study are internationally recognized for their leadership in cancer surveillance. The study was peer reviewed for scientific merit by three internationally respected independent university based epidemiologists. They all deemed the study to be scientifically sound.

The main results of the study are, number one, there was no overall evidence of increased cancer mortality in Port Hope from 1956 to 1997. There were 836 cancer deaths observed in Port Hope compared to 845 expected based on Ontario rates.

Number two, there was no evidence of excess mortality for cancers known to be associated with radiation exposure. There is no increased mortality from leukaemia, breast cancer or lung cancer or childhood leukaemia in particular. These findings on the whole are consistent with the cancer incidence report.

However, there was a consistently increased mortality from circulatory diseases. From 1956 to 1997 there were 2,301 circulatory disease deaths observed in Port Hope, which was an increase of 15 per cent from the 2,000 deaths expected based on Ontario rates.

Elevated mortality included coronary heart disease, stroke and diseases of the arteries. Elevated circulatory disease mortality was also noted in the larger Northumberland County, so it was not unique to Port Hope.

Number five, there were some increases and decreases in mortality when data were divided into finding units by time period and sex. There were significantly higher mortality for pneumonia, cirrhosis of the liver and of brain cancer.

For pneumonia, both men and women had significantly higher mortality for the whole time period. Men had significantly higher mortality from cirrhosis in one time period and women had higher mortality for brain cancer for one time period.

There are also a few diseases that had significantly lower mortality than what would

be expected. Diabetes and Alzheimer's disease for both men and women for the whole time period had lower mortality than what would be expected.

In conclusion, there was no overall evidence of increased mortality in Port Hope. The overall pattern of cancer incidence and mortality in Port Hope was comparable to that of the rest of Ontario. These findings are consistent with existing knowledge of those response relationships of radiation risk.

Finally, there were significantly increased circulatory disease mortality in Port Hope throughout the 42-year period studied. Cigarette smoking, high blood pressure, high fat diet and lack of exercise are the main risk factors for circulatory disease. It is unlikely the increased rates are a result of the town's industrial activities, especially since results were not specific to Port Hope.

Thank you.

MR. BLYTH: Thank you very much, Ms Lane.

CNSC staff and our colleagues from Health Canada are available to answer any questions that the Commission Members might have.

THE CHAIRPERSON: Thank you very much. We will open the floor for questions.

Mr. Graham?

MEMBER GRAHAM: Just a further explanation for a layperson who needs some clarification. In your very last slide, are you saying that in the significant increase in circulatory disease and mortality in Port Hope you could not tie a correlation to the industrial activities in that town to that? That would be more to the three risk factors that you indicate. Is that what you are saying?

MR. BLYTH: I will ask Ms Lane to respond.

MS LANE: The study was a descriptive study so it only described the disease rates in Port Hope. It was not an analytic study so it did not look to see what were the causes of high or low rates of disease within the population, but those are the main risk factors for circulatory disease in Canada.

MR. BLYTH: I think it is also important to note that that was -- that situation existed beyond the confines of Port Hope but was high in the Northumberland County as a whole. The

population of Port Hope is in the order of 15,000, 16,000 people I believe while as the wider county is between 75,000 and 80,000 depending on which Web site you go to to find the population.

MEMBER GRAHAM: The significant increase you say is -- that same trend was for the whole county, not just for Port Hope. Where it says disease/mortality in Port Hope, it really could be for the whole county. Is that what you are saying?

MR. BLYTH: That is exactly my point, that circulatory disease is higher than you would expect based on the province of Ontario averages for the whole county and not just the municipality.

THE CHAIRPERSON: Dr. Giroux.

MEMBER GIROUX: Yes. Following up on that one, that then is the basis for your statement that it is unlikely to be related to the pollution in the city because it is also present in Northumberland and because it says "mainly in Canada is one of the main causes of mortality?"

MR. BLYTH: That is correct. It is my understanding also that circulatory disease is not traditionally associated with radiation

doses at the levels that we are talking about. It is my understanding that at higher levels that one might receive in the course of medical treatment or something for a cancer that is the case.

But to the best of our knowledge at this time that correlation does not exist. We are aware that there are studies going on but there is no consensus on those studies with respect to linkages between lower doses and circulatory problems.

MEMBER GIROUX: Thank you.

I have a question for staff or for Health Canada, I am not sure, about the confidence interval and the level of the 95 per cent that you are using. In previous meetings and hearings of the Commission, we had people from Port Hope and some criticized the use of 95 per cent and said you might instead use 90 per cent and then the results might be different.

Could you justify the use of 95 per cent as a level and indicate if the results might be different if you used another one?

MS LANE: Ninety-five per cent confidence intervals are the standard confidence limits that epidemiologists would use in this type

of study. If you were to look at the literature, the majority of literature published would be a 95 per cent confidence interval.

By going to a 90 per cent confidence interval you are narrowing the range so more things are likely to be statistically significant. By keeping it at 95, that is the recognized standard that epidemiologists use under this situation.

MEMBER GIROUX: Thank you.

The question for staff now. This is an important study of course for the people in Port Hope and intervenors that we have had before. What are your plans for publication and dissemination and maybe discussion? Will people have a chance to react? They will be informed, I am assuming, but please explain.

MR. BLYTH: There has already been a fairly wide dissemination of the information. It was disseminated to municipal officials, medical health officers and individuals like that.

Also, we have had requests from interested citizens and groups in Port Hope, at least one, and they have been forwarded and supplied with the report already. I believe there

have been comments in the newspaper to that regard already in the media.

Do you want to add anything to that, Rachel?

MS LANE: I think that pretty much sums it up. The document is available to the people of Port Hope as well as other people of Canada. Selected, elected and appointed officials received the report in advance of the release. I have made initial contact with the medical officer of health in Port Hope as well as the chief medical officer of health in Ontario offering to discuss the study with them.

They have not been back in touch with me at this time.

MEMBER GIROUX: Are you planning any public presentation in Port Hope? Are you thinking of creating a forum for discussion of the report?

MR. BLYTH: We have not planned any such event. Upon request we would obviously do it, but in this situation we are not going to proactively offer workshops, townhall meetings or presentations.

THE CHAIRPERSON: My question is

with regard to I guess what would be a logical next step. Perhaps this is a naive question but since the province is responsible for health care, would the province be the group that would undertake -- for example, if people were worried about the circulatory disease question, would it be the province who would logically follow up? Would it be the medical officer or would it be a broader Ontario ministry of health officials? What would be the logical place for the people of Port Hope to turn to? To whom would that be logical?

MR. BLYTH: I am going to give a high level response and then I will pass it to my more learned colleague.

This is the reason behind our initiative to try to make contact with the medical health officers to discuss logical next steps and who might take those steps, if any. It is not clear -- it may well be clear that with respect to circulatory disease that maybe somebody should be doing something in Port Hope. If you had limited funds to spend, presumably that would be the place you would start based on this kind of information if your interest is public health.

We don't feel that falls within our mandate but we certainly want to talk to the provincial authorities. We believe that they are responsible to inquire about logical next steps.

We at this time are not planning steps beyond that. My reason for saying that is we don't have a clear policy position with respect to the kind of research we should or shouldn't be doing as a regulatory agency and, more precisely, where we fit in the health studies field vis-à-vis Health Canada and the provinces and things like that.

We need to get our policy with respect to research and health studies more clearly defined and generally accepted before we are likely -- it would be appropriate for the CNSC to take next steps, I would say, apart from discussions with provincial agencies and municipal authorities who have an interest in this if they are so inclined to have those discussions.

Rachel, do you want to add anything?

MS LANE: I think I should just be short and sweet.

A study was conducted in 1998, the

Great Lakes study. In that study elevated rates of cardiovascular disease were noted in Port Hope, so our study wasn't providing really any new information to the community.

My understanding of public health is that the local health unit has to provide a health assessment, regular health assessments, of the community, so they are already aware of cardiovascular disease in their community, I would not presume but I would assume that they are aware. I haven't had the opportunity to discuss with them what they have already implemented within their community.

THE CHAIRPERSON: I just would like to clarify, Mr. Blyth. I guess my question was that the studies are done usually for a reason. There could be I guess scientific curiosity, but they are done for a reason which would require some implementation per se which is I gather from you not our job, which I know is not our job.

Your comment about policy would to me then relate to other studies that would be done rather than implementation. Am I correct in that triangle?

MR. BLYTH: That is absolutely correct. We won't be taking next steps in terms of additional studies, more in-depth investigations of this or earlier reports until we have sorted out our policy. We will be talking to the medical health officers and responsible people in the province of Ontario.

I think as part of our due diligence to make sure that they are aware of our report and to discuss, again at least at an intellectual level, what they might do as a result, but the ball in my mind moves clearly in their court at this time.

02-M48

The Canadian Nuclear Safety Commission's Regulatory Transition Plan

THE CHAIRPERSON: Thank you.

I would like to move to item 6.2, which is the CNSC regulatory transition plan as noted in CMD Document 02-M48. I would call upon Mr. Mike Taylor, please.

Oral Presentation by CNSC Staff

MR. TAYLOR: Thank you,

Madam Chair, Members of the Commission.

My name is Mike Taylor. I am the Executive Director of the Office of Regulatory Affairs.

With me is Mr. Jongile Majola from my office who led the team that put together the report before you.

We do not have a presentation for you. Hopefully, the report is explanatory enough. We are available to respond to your questions.

THE CHAIRPERSON: Questions from the Commission Members with regard to the transition plan?

I guess I have a philosophical question. The transition plan was a document that came out of the changeover to the new legislation two years ago. When does the transition plan stop and the just general ongoing exemptions continue? Is it a matter of nomenclature or is there a definite changeover time?

MR. TAYLOR: From my point of view, the transition plan stops when the last item on the current transition plan is complete. At the moment, as we have stated in the report, we do not believe that we need to ask for any further

amendment to the transition plan.

Should any item that is currently on that plan turn out to require extension, then I believe we would come back and seek the Commission's approval to change that particular item, but at the moment we believe that there should be no further requirement to change and therefore once the items on this plan are all complete I would say that the transition period is over.

THE CHAIRPERSON: For example, the date that I see that is furthest out is December 2006. Is that when the transition plan would expire?

MR. TAYLOR: In my view, yes. But I think once we have completed the other items on the transition plan, I would not envisage us introducing extra items onto the transition plan. I would say that any new item is simply part of the ongoing process of regulatory change.

THE CHAIRPERSON: When would we see another update of the transition plan to the Commission?

MR. TAYLOR: If I may consult with my colleague.

--- Pause

MR. TAYLOR: We suggest that there is a report to be submitted in June of next year on the transportation situation and if the Commission agrees we would update this program at that time.

THE CHAIRPERSON: So yearly in fact --

MR. TAYLOR: Yes.

THE CHAIRPERSON: -- may be appropriate, including the transportation report.

Any other questions from the Commission?

Thank you very much, Mr. Taylor.

Closing of Meeting

THE CHAIRPERSON: We will now move to in camera. The next item, CMD 02-M49 relates to security matters and will not be discussed in public. This brings to the end the public part of this meeting and we will move to closed session.

Thanks to all of you for attending today.

--- Whereupon the meeting concluded at 4:14 p.m.