Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Public Meeting

Réunion publiques

October 5, 2006

Le 5 octobre 2006

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

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

Commission Members present

Commissaires présents

Ms. Linda J. Keen
Dr. Moyra McDill
Mr. Alan Graham
Dr. Christopher Barnes
Mr. James Dosman
Mr. André Harvey

Mme Linda J. Keen
Dr. Moyra McDill
M. Alan Graham
Dr. Christopher Barnes
M. James Dosman
M. André Harvey

Secretary: Mr. Marc A. Leblanc

Secrétaire: M. Marc A. Leblanc

General Counsel : Jacques Lavoie

Conseiller général : Jacques Lavoie

TABLE OF CONTENTS

Ottawa, Ontario

--- Upon commencing at 11:00 a.m.

06-M46

Opening Remarks

MR. LEBLANC: Bonjour Mesdames et Messieurs. Bienvenu à la Commission Canadienne de sûreté nucléaire.

At today's meeting we have simultaneous translation. If you would, please keep the pace of speech relatively slow so that the translators have a chance of keeping up.

Les appareils de traduction sont disponibles à la réception. La version française est au poste 8 and the English version is on Channel 7. Please identify yourself clearly before speaking so that the transcripts are as complete as possible. Les transcriptions seront disponibles sur le site web de la commission dès la semaine prochaine. Please silence your cell phones. Madame Keen, Présidente et première dirigeante, présidera la reunion publique d'aujourd'hui.

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

I would like to begin by introducing the members of the Commission that are with us today. On my left is Mr. Alan Graham, Dr. James Dosman and Mr. Andre

Harvey. On my right, Dr. Moyra McDill and Dr. Christopher Barnes.

As well as the secretary of the commission, Marc Leblanc, we also have with us on the podium the General Counsel and Chief Legal Advisor to the Commission, Jacques Lavoie.

The Commission is still on an enhanced security status as are many of the facilities that we regulate. As such, we will take measures necessary to ensure that sensitive matters of a security nature are not discussed in public and I will, as necessary, call for an *in camera* session where the Commission members and appropriate members of the licencee community, if necessary, and Staff will be called into the back room to discuss security matters. And we do have security matters on the agenda today.

THE CHAIRPERSON: I will begin the meeting by calling for the adoption of the agenda. This is noted in the following documents: CMD-06 M47, 06 M47A. We will -- the public portion of the August 16th, 2006 Commission meeting was adjourned until today's meeting, so therefore, Commission member documents, 06 M43, M43.A and 44 are also listed on the agenda. They would have originally been discussed in August but they are on the agenda today.

I also would like to note there is one

Supplementary CMD that has been added to the agenda after the agenda's publication on September 22nd, 2006 and this is also listed on the updated agenda.

So with that in mind, noting that M49.A, M49.B and M53 are confidential documents dealing with security and will not be discussed in public, with all that information tabled, may I ask the Commission members for their concurrence with regards to the agenda.

Do I have concurrence?

06-M47 /06-47.A

Adoption of Agenda

THE CHAIRPERSON: For the record, I would like to note that the agenda has been adopted.

I will now call for the approval of the minutes of the Commission meeting which was held on August 2nd, 2003. The minutes are outlined in Commission member document 06-M48. And I note that we do not have any follow-up updates from that meeting for today's consideration.

06-M48

Approval of Minutes of Commission Meetings

Held August 16, 2006

With that information, are there any comments, additions or deletions that Commission members would like to make to the draft minutes of August 16th?

Seeing no changes, then I would for the Commission members to approve the adoption of the minutes, do we have approval?

MR. LEBLANC: Yes.

THE CHAIRPERSON: Noting for the record, we do have approval.

The next item on the agenda today is significant development report, 2006-06 and significant development report, 2006-07. These are outlined in CMD's 06-M43, M43.A, M49, M49.A and M-49.B.

As the significant development reports are already in written form, senior CNSC Staff will be asked first if they wish to add anything orally with respect to each one of these reports that are within their respective areas of responsibility, and after that, we will then move to members' questions, if so appropriate.

As I mentioned earlier, there are two significant development reports today that deal with security and they will be discussed in closed session.

So we will now move then to the first two significant development reports that we will be discussing and they fall under the responsibility of Mr. Barclay

Howden, Director General of the Directorate of Nuclear Cycle and Facilities Regulation.

The first one is Item 4.1.1 which the restart of MAPLE 1 Reactor. We do have that information in written form.

Mr. Howden, do you wish to add any additional comments to this item?

MR. HOWDEN: Barclay Howden speaking.

At this moment in time we don't have anything further to add, but Staff is here, prepared to respond to questions. Thank you.

THE CHAIRPERSON: I understand we also have representatives from AECL with us today in case the Commission wishes to add ask any questions.

Would AECL like to make any comments before I open the floor for questions on this item of Maple?

MR. TAYLOR: Don Taylor for AECL, Director of DIF Operations. No, we don't have anything to add. Thank you.

THE CHAIRPERSON: Therefore, we will turn to questions.

Dr. Barnes, would you like to start the questions?

MEMBER BARNES: Maybe you could just clarify for me, what produced the reactor trip?

MR. TAYLOR: I believe you are referring to the reactor trip in the CMD?

MEMBER BARNES: That's right, 06-M43.

MR. TAYLOR: At 7:02 a.m., June 30th?

MEMBER BARNES: Correct.

MR. TAYLOR: That was a loss of class 4 power -- an area loss of Class 4.

MEMBER BARNES: Oh, okay.

And can you tell us what the situation at the present time is with the reactor?

MR. TAYLOR: The MAPLE 1 reactor is currently in an extended outage to do field work to prepare for a five megawatt operation to do some tests for the positive power co-efficient.

MEMBER BARNES: And when was that shut down; after the criticality was reached?

MR. TAYLOR: I am trying to recall the exact date.

We have been in a shutdown for about three weeks now, so it is a planned outage to complete a number of items that we wish to complete in shutdown.

MEMBER BARNES: And how long would it be estimated that it remains in a shutdown situation?

MR. TAYLOR: October 28th is our planned date of restart – the finish of the outage.

MEMBER BARNES: And then to what power level does it resume?

MR. TAYLOR: We would be resuming power at two kilowatts. We have applied for approval to go to a higher power level to do some test for PCR; so our intention is to restart and go to five megawatt operations for re-testing.

MEMBER BARNES: Okay. Thank you.

THE CHAIRPERSON: Dr. McDill?

MEMBER McDILL: When you started up, how, -- I'm trying to keep it all in context here; how high a power level did you reach and did the PCR remain positive the entire time or did you manage to find some reversal of the trend?

MR. TAYLOR: Don Taylor, again.

We started as planned to a power slightly below two kilowatts and have operated the reactor relatively steadily at that power level with some planned shutdowns for maintenance outages.

The PCR was not re-measured at that power level. We have applied for and agreed with CNSC Staff to operate the reactor 4 at two kilowatts for a couple of reasons. So we did -- the PCR, to try and answer your question, we have assumed that the PCR is the same value as last measured.

MEMBER McDILL: And when is the next formal measurement of the power co-efficient?

MR. TAYLOR: So we have applied for agreement to operate the reactor at a higher power level to do tests to re-measure the PCR, and that is planned in -- approval is planned in November and we would be starting in December for tests to do that.

MEMBER McDILL: Could I have Staff's comments on this procedure, please?

MR. HOWDEN: Yes, thank you. Barclay Howden speaking, for the record.

From a regulatory process standpoint, we are reviewing the five megawatt safety case that has been submitted to us by AECL and as yet have not accepted it. So it is still under review.

AECL has their schedule and we are aware of it and trying to work our resources with respect to it, but it has not been accepted and that's basically the whole point, that that reactor will not be able to go above 2 kilowatts until the safety case has been accepted. And the safety case is very specific for a measurement of the PCR; it's not to operate for operational purposes, it's for testing purposes so there is a safety case to go to five megawatts. And then for testing, there are further supplemental safety cases that all have to go

through a review by CNSC Staff.

MEMBER McDILL: Do you have a feeling for the time frame, Staff, for reviewing the safety case?

MR. HOWDEN: Barclay Howden speaking.

We are still -- we are on schedule for completing the review. It doesn't mean that the review will be positive, but we are on schedule and a lot of things are coming to the end of this week where all the comments are coming in.

I would like to note that there is a mid-term report coming up on this facility in December and we will be bringing the latest information to the Commission at that time on its operation.

THE CHAIRPERSON: Thank you. Mr. Graham?

MEMBER GRAHAM: Is the reactor fully loaded -- the bundles, it's fully loaded now, reloaded at this point and time?

THE CHAIRPERSON: That's a question for AECL.

MEMBER GRAHAM: For AECL, yes.

MR. TAYLOR: Thank you. Don Taylor for AECL.

Yes, the reactor core is fully loaded with fuel.

MEMBER GRAHAM: My question to CNSC Staff

is then, is there any concern of safety or safety to humans and so on, exposure that might occur with the reactor fully loaded and the fact that it won't be starting again until late, as of, I believe, late October?

MR. HOWDEN: Barclay Howden speaking. From a risk prospective, we consider that the risk is reasonable. It's in a safe shutdown state. We have been doing – we've done verification, and AECL has put in place all the procedures required to keep the reactor in a safe state, whether it's shut down or whether it's operating at two kilowatts. And at this moment in time we're satisfied with the safety of the reactor.

THE CHAIRPERSON: Further questions? Dr. Dosman?

MEMBER DOSMAN: Thank you.

I take it from the comments that have been made, that the loss of class 4 power was quite unrelated to the reactor; it just happened to occur at that time; am I correct?

MR. TAYLOR: Don Taylor, yes, that is correct.

MEMBER DOSMAN: Madam Chair, may I ask, does the facility not have a standby power that would automatically kick in to protect the reactor?

MR. TAYLOR: Don Taylor, yes, we do have

standby power at different levels of reliability and the reactor is designed to shutdown on a loss of class 4 power.

MEMBER DOSMAN: So I take it that even though they have standby power, that it doesn't click in quickly enough to protect the reactor, is that right?

MR. TAYLOR: It's a safety feature of the reactor. If we lose class 4, then we are not operating.

MEMBER DOSMAN: Thank you.

THE CHAIRPERSON: Questions? One of the issues that is – you know, understanding we're coming back in December, I think that this would be a good opportunity in December for us to get a sense. This is a long-lasting project, so I think it would be appropriate, particularly since we have new members of the Commission, to ensure that that background document is comprehensive. I think -- and give a sense of the future planning as well as the issues which we're talking about today, which are fairly narrow in there and look at some of the issues going forward. I think the public is owed that as much as everyone else and the Commission.

I think that one of the things that we did have in the past, was a document that talked about areas where there was an agreement or disagreement in certain areas. And it was for the Commission, I think, an

opportunity to look at the communication,, if there's communication issues as well.

So if that in December, if we could also look what are the communications mechanisms that are used between the AECL and the Staff to ensure that there is adequate communications going by.

I don't -- I think my sense is that that isn't any issue, but I think that the mid-term report offers us an opportunity to ensure that's happening at the appropriate levels and, et cetera. So if we can have that, that would be appreciated.

So I think with no more questions, thank you very much.

We will now then move to the second issue with regards to Chalk River Laboratories, that there's two items which is 4.1.2 and 4.1.5 which is Molybdenum 99-Production Facility at Chalk River Laboratories and updates.

And, again, this is Mr. Howden's area. Mr. Howden, do you have an update on the materials that we have received?

MR. HOWDEN: Barclay Howden speaking, for the record.

Yes, I do, Madame Chair. CNSC Staff would like to make a short presentation. To a certain extent,

it's an update, to a certain extent it's to pull the two SDR's together for the Commission. So I will proceed. Thank you.

This is for the Molybdenum-99 Production Facility, but we are going to be focusing on a part of that facility called the "FISST" Tank which stores waste solution.

For the record, I'm Barclay Howden. With me today, are Mr. Miguel Santini, Director of the Chalk River Laboratories Compliance and Licensing Division and Mr. Etienne Langlois, who is Project Officer in the same division.

Mr. Langlois is responsible for the Molybdenum-99 Facility from a regulatory standpoint and I will now ask him to make the presentation.

MR. LANGLOIS: For the record, my name is Etienne Langlois, Project Officer in the Chalk River Laboratory Compliance and Licensing Division.

To provide a better understanding of the events reported here, a brief description of some of the relevant features of "FISST" seems in order at this point.

"FISST" is located at the AECL Chalk River Laboratories and there are three thermo couples used to measure the temperature inside the tank. The sheet of each thermo couple is 316-L stainless steel.

The thermo couples themselves are inserted into three thermo wells penetrating vertically inside "FISST". These thermo wells are tubes made of 304-L stainless steel, with a 304 end cap welded at the bottom.

Guide tubes passing through openings in the vault sealing slabs and funnels located at the top of the thermo wells, allow the insertion and removal of the thermo couples.

These openings are shielded by means of lead-filled shielding inserts and by floor plugs. The tank is basically at atmospheric pressure and no active waste emissions have been made for over three years.

In 2006, June 23rd, AECL reported that contamination was found that same day on a thermo couple as it was being removed from a stone well in "FISST". This thermo couple had been in place since the tank was put in service about 20 years ago and was being replaced as part of preventative maintenance.

No airborne contamination was detected when the thermo couple was being removed. The radio isotopes detected on the thermo couple were found to be consistent with a "FISST" solution. This indicates a breach of the pressure boundary of the thermo well.

It was also found that there was much more contamination at the tip of the thermo couple than higher

up, about 4.3 millirems per hour at tip against .1 to one millirem per hour, but 60 centimeters from the tip.

AECL's investigation into the possible causes for this failure found the thermo couple 316L stainless steel sheet is discolored along the whole length of the thermo well.

Examination has revealed that there is some corrosion, very shallow at the top and more pronounced at the tip, although it is there still only a few grains deep.

Also found on the terminal couple sheath was chloride which could come from road salt or floor cleaning solution making its way past the floor plug and into the thermo well.

Also found in the thermo couple sheet was chloride which could come from road salt or a floor-cleaning solution making it's way past the floor plug and into the thermo well. In addition, sand containing salt was found at the bottom of the plug hole. This would explain the corrosion found on the thermo couple's sheath and could have also caused corrosion of the 304-L stainless steel thermo well from the inside resulting in a leak.

Other possible explanations for the failure are a corrosion of the 304 stainless steel thermo well end

cap or of its well by the "FISST solution.

On August 3rd, AECL performed tests which allowed to -- which indicated that two of the three thermo couples were wet and the third one was dry. This last thermo couple was subsequently removed on August 29th. It was found to be dry and clean of contamination, although this terminal couple had been replaced in 2005 also as part of preventative maintenance. An endiscope was then introduced into the floor insert guide tube to inspect the funnel at the top of the thermo well. A piece of lead wool was found in this funnel. This was pushed down into the funnel on September 1 to provide foreign material exclusion which allowed the floor insert to be removed, which was performed on September 5th.

The endiscope was then used on September 7th to have a look at the top of the tank and at the underside of the vault sealing slabs.

The funnel was also unplugged and the endiscope used again to inspect the thermo well on September 8th, followed by an eddy-current inspection on September 21.

The endiscope was also used to inspect entrance funnels of the two other thermo wells. The last of the original thermo couples was removed on October 4th and found to be contaminated, blackened and wet as

expected from the results of the tests performed two months ago.

The liquid levels in the thermo well were measured and appear to be the same as the level in the tank.

AECL is continuing its investigation into the causes of this event. Among the measures taken by AECL to reduce risk, the radiation protection requirements for work in the building in which "FISST" is located, have been increased.

Also, the activities that could result in tank pressurization such as steam-mixing have been temporarily suspended since pressurization of the tank could force the liquid in the thermo well up and above the funnel, spilling it on the outside of the outer tank and from there to the vault floor.

The inspections done so far of the top of the tank and of the funnels of the wetted thermo wells have not shown any signs of such spills being created by a previous tank operation.

AECL is also working on proposals for changes that would allow tank sampling and heating to be resumed. CNSC Staff is following the investigation closely and will update the Commission through a follow-up SDR when the results of this investigation and with the

remedial actions taken by AECL to restore the tanks pressure boundary. This ends my presentation.

MR. HOWDEN: Madam Chair, that completes our presentation on this SDR and Staff is prepared to respond to questions.

THE CHAIRPERSON: Thank you. Well, welcome, Mr. McGee and welcome back before the Commission, the vice-president of AECL and I understand you may wish to speak to this matter, sir. The floor is yours.

MR. McGEE: Good morning, Madam Chair and Commissioners.

We would just like to make a short presentation, a few opening remarks and a short presentation that shows some actual photographs that have been taken of the tank. The alignment between where we are with the "FISST" tank issue and Staff's is quite close, and so the only thing we can really do to supplement their presentation is make a few opening remarks and show you some pictures.

So as you mentioned, I'm the vice-present of AECL's Nuclear Laboratories and I'm accompanied today by some members of my management team. We are prepared to go on to answer questions, but we would like to just make a few opening remarks about this event and give you those pictures that we talked about.

During previous appearances, I have assured the Commission that we are very focused on improving our performance and our response to events when they occur. What I hope we are demonstrating here again to both Staff and to the Commission, that we're taking that promise very seriously and that our immediate response and our ongoing response to this degraded equipment condition, demonstrates that commitment to performance.

We are taking this discovery very seriously. Operational Safety is a key component of our overall site safety and program, as well as our quest for operational excellence.

Our immediate compensatory actions quickly and effectively placed the system in a safe state and we performed an initial assessment of equipment degradation mechanisms. Some of those assessments have been already talked about.

Our Staff reacted in a very professional manner. At the time of discovery, two of our employees received very minor contamination as a result of the actual contamination on the thermo couple itself, but otherwise there were no injuries and no significant contamination.

There was no release of radioactivity from the tank other than the minor contamination on the thermo

couple and no one was injured. I would like to now provide just some of those pictures that we referred to.

This first slide shows a picture of the "FISST" tank during its installation. The "FISST" Tank, as mentioned, is a double-walled stainless steel tank that's used to store radioactive liquid waste from the process used to produced Molybdenum-99 for medical purposes.

It's located in a concrete vault and you can see the concrete walls around the tank during this installation process, and it's located inside our controlled area 2 or our inner-protected area. The vault is covered by a concrete floor and there are the three penetrations that were shown on the cross-sectional view shown by CNSC Staff.

Most of you will see it's highlighting the actual funnels that you saw on the cross-sectional picture. And as mentioned on June 23rd, we found contamination on the thermo couple as part of our routine preventative maintenance program. But, again, part of our improvements were putting preventative maintenance programs in place, not just in reactor facilities, but we are in the process of putting the PM programs in place across the site. And so this is one of the first opportunities to inspect the thermo couple since its

initial installation.

This next slide just basically shows an extended condition. It's a slide that's taken from some of our actual inspection equipment and you can see if your eyes are better than mine, very shallow inter-granular penetration there.

And, I guess the real key point is- and I needed coaching on this particular slide myself because it's almost indistinguishable, and I guess that's really the point we're trying to make. That on the thermo couple, itself which is in the same corrosive environment as the rest of the thermo well, the inter-granular corrosion is relatively minor.

This is just an overview of the floor, the vault floor, so those are the three penetrations. They're not really sealing devices, they're really just plugs essentially. And those plugs are removed and then there's some shielding material that allows you to access the thermo couples.

One of our challenges has been -- so we were able to access the thermo couple without taking some of the shielding material out. One of our challenges has been, as we've gone through the systematic approach to troubleshooting, is before we took the shielding material out, we needed to do fairly significant testing to ensure

that the radiation doses and so on are acceptable and we had appropriate high hazard work plans in place. But those plugs are we believe the source at this point of where chlorides have entered the penetration, the thermo wells themselves.

The other thing, without spending a whole lot of time on this one again part of our radiation work practices rate high hazard work -- the dose rates associated with direct contact with this tank are a significant risk to our employees, a significant health risk, and, so that requires us to do very careful radiation work planning. We are using practices that are consistent with the industry's practices for a high hazard work planning. We've gone and we've looked at a lot of the operating experience across the industry world wide, not just the Canadian industry, but the industry world wide on the planning approaches to use for safe radiation work practices when it comes to a trouble- shooting exercise like this.

And so one of the things that we've done. is we have set up a mock-up facility to allow us to test it in a non radioactive environment to get our skills and our practices in good shape before we actually go to work on the tank itself.

I guess, finally, a couple of shots that

we'll show you -- and forgive the fact that it's a bit disconcerting when you see the logos and the times upside down, that's because the orientation of the camera as it enters has to turn upside down and we're not capable enough with photo-shop to change it around unfortunately.

But what it does, is it illustrates how we have gone into the tank; so we've gone in through one thermo well penetration and transitioned across the tank to get access to view the various points of inspection that we need to get to. Above the tank. And this is just a close-up of the funnel, and you can see the tube that comes in from the top for the thermo couple to travel in.

This is a slide that shows with our inspection equipment, you are now looking down the thermo well itself without the thermo couple in place, you're looking at the bottom of the thermo well itself?

So our investigations continuing into the leakage and the extent of the condition, our approaches are addressing the degradation of the thermo well and looking at ways that we can ensure before we go from where we are in terms of the state of the facility and the state of the tank itself, ensuring that anything else that we do with this, we're taking a safe approach, both from a Staff point of view and the state of the tank itself.

We will commit to keeping CNSC Staff

informed; we have regular discussions with the Staff members and including where our thinking is going on how we go about trouble-shooting and so on, so we found that to be a very useful and rewarding exercise. And other than that, that concludes my comments for this morning and we would be glad to answer any questions.

THE CHAIRPERSON: Thank you. Dr. McDill, would you like to start questioning?

MEMBER McDILL: I have more than two, a series of questions which I will think will lead to the question I really want to ask, but to start off, I understand there's a thermo well and I understand there's a thermo couple; what is the purpose of the thermo couple and the thermo well?

MR. McGEE: Brian McGee, for the record.

The purpose of measuring the temperature essentially in the tank, and the reason that they're on sort of a gradient elevation, is to get a cross section of the tank temperature, and it's for part of our assurance of criticality ensuring -- not having a criticality safety issue.

MEMBER McGILL: Thank you. That was what I had assumed, but I wanted to be certain.

And is there any -- there are no difficulties with the temperature; the temperature has

been what it's supposed to have been over a long period of time?

MR. McGEE: Brian McGee, for the record.

At this point we're not having any problems. The temperature has -- we're not heating the tank either as part of our compensatory actions -- you know, until as we're troubleshooting this given that we don't, you know -- until we understand the full extent and condition of this leakage, we didn't want to pressurize or heat the tank.

So we are watching the temperature. We are still able to monitor the temperature and the temperature has come down slightly but it's decreasing by, in the neighborhood of .1 degrees "C" per day and we still have a significant margin and we have a safety analysis within the facility authorization; we still have a significant safety margin before we have a concern, but we are watching the temperature.

Dr. McDILL: Thank you.

Now, the thermo couples are 316-L and what is the age of the one that is most damaged? How long had this thermo couple been in use?

MR. McGEE: Brian McGee, for the record.

I'll ask Paul Tonner to come to the mic. and answer that. I believe it's 20 years but I'll let

Paul confirm that for us.

MR. TONNER: Paul Tonner, for the record.

Yes, the "FISST" tank was put in service in 1986, 20 years.

MEMBER McDILL: And the thermo couples that we're seeing picture of was inserted at the same time?

MR. McGEE: Brian McGee, for the record. That's correct.

MEMBER McDILL: The thermo couple that was removed in 2005, showed no damage?

MR. McGEE: Brian McGee, for the record. I'll ask Paul Tonner to respond.

MR. TONNER: Paul Tonner, for the record.

That's correct. there was no damage, no contamination, no issues at all in the removal in 1985 -- in 2005.

MEMBER McDILL: So the – it's hard to keep this all straight. So the thermo couple that was removed in 2005, was it in the same thermo well as the one that was removed in -- no, it wouldn't have been, it was a different thermo well. So the one thermo well has presumably been penetrated?

MR. McGEE: Brian McGee, for the record.

Through our testing and investigation we found the initial one through this -- through the

preventative maintenance program. Since then we've done two things: one is, we've heated the other thermo couples to measure their temperature response to heating and we've been able to confirm through that methodology that we have one other thermo well that's leaking and one other one that's dry. And so now we have gone in with the endiscope; and the other one that we know is wet and -- or damp, I guess is probably a better description and we are furthering our investigation. So we really, you know, two approaches.

We have a thermo well that's dry that allows us to do more eddy current testing to test the -- to verify the tank integrity and, you know, look for -- confirm that -- it helps us confirm that the chlorides from outside the tank are the corrosion mechanism.

So we have two thermo wells, other thermo wells, one wet, one dry.

MEMBER McDILL: Is it possible that the 304-L is sensitized, that it wasn't an "L", that was a 304?

MR. McGEE: Brian McGee, for the record.

I'll ask Mike Wright to answer that question.

MR. WRIGHT: For the record, Mike Wright, AECL.

Your question is about the thermo well material, the 304-L. And we have no reason to believe that the 304-L thermo well, or main thermo well is sensitized. But if you remember the presentation by Staff, the end cap material is 304 and that may be sensitized.

MEMBER McDILL: At this point, you have no reason to be concerned that the tank itself, the 304-L tank has been breached in any way because of the double wall?

MR. McGEE: Brian McGee, for the record.

I'll turn it to Mike Wright to just elaborate a bit on that, to give you a bit more detail, but, you know, we have confirmed that there's no indication of any leakage between the two tanks which is a significant indication for a significant signal.

The other thing is, in terms of the tank breach, that's a good signal to us that we don't have any confinement integrity issue with the inner tank.

The other thing is, and they don't show up very well, but under more detailed examination you can see that there's been no leakage of any fluid up and out the funnels, so they haven't breached coming up the thermo well penetration either.

I'll just ask Mike if he wants to elaborate on any of that.

MR. WRIGHT: Mike Wright, AECL, for the record.

Yes, we have no concern over penetration of the main tank. Again, to elaborate, it is a double walled tank and we have very sensitive leak detection capabilities in the ante that's between the two tanks and it sees no trace of a leak.

MEMBER McDILL: Do Staff want to comment on any of -- I realize there's a long series of questions there; do you want to add anything?

MR. HOWDEN: Barclay Howden speaking.

Clearly, this event is a concern to us. AECL is going down their path of investigation which is appropriate to find the root causes such that they come up with solutions, so we support that.

Timing is a concern with us because we want to get this information as fast as possible. So the key right now is there's an ongoing investigation. Two, the second thing is, it is a double wall tank, so that's good, but we still remain concerned of the integrity of the tank until it's proven that there isn't an integrity problem, you know, whether the corrosion is coming from within the tank or outside the tank.

The third one is that the tank is an operating tank, so, you know, they've suspended some

operations with our concurrence, but the thing is, FISST sampling will have to go on and other things in monitoring and so our concerns are twofold: the integrity of the tank and the ongoing operation of the tank. But at this moment we're satisfied that things can progress the way they're going with the investigation given the assurances and some of the information they have.

Nonetheless, it is a concern and our intention is to come back to the Commission once the investigation is completed, to report to you the path forward.

THE CHAIRPERSON: Thank you. Further questions? Mr. Harvey?

MEMBER HARVEY: Yes, Madame la Présidente.

This thermo couple has been there since 20 years and is this to say that it hasn't been inspected since the thermo couple has been there and we thought had been taken out since that time.

MR. McGEE: Brian McGee, for the record.

I'll ask Paul Tonner to, you know, answer on any previous inspection programs, but we are increasing our preventative maintenance program across the site on the reactor facilities and on other facilities and so the frequency of inspection and putting in place a periodic inspection program and a preventative maintenance

inspection program is part of one of our ongoing improvements as well.

And I'll ask Paul if he wants to elaborate on the last time we looked at the thermo couple.

MR. TONNER: Paul Tonner, for the record.

Yes, that's correct. The last time we changed a thermo couple was in 2005, the first thermo couple. The thermo couples themselves were operating perfectly. There were no indications of any degradation to signals, but we implemented this change as part of a preventative maintenance improvement program.

MEMBER HARVEY: So the problem did occur since that time, since 2005?

MR. McGEE: Brian McGee, for the record. I'll ask Paul Tonner to reply.

MR. TONNER: In 2005, when we looked in the first thermo couple, there was no -- any indication of a problem, no contamination, no discoloration of a thermo couple that we removed. Yes, and TE-1 is still clean. We recently looked at it again.

TE-2 and TE-3, which are the ones that are indicating wet, there is degradation we believe at the bottom of those thermo wells. And we do not know when that degradation occurred.

MEMBER HARVEY: They haven't been inspected

in 2005 then?

MR. McGEE: Brian McGee.

MEMBER HARVEY: They have been or not?

MR. McGEE: Brian McGee, for the record. I'll ask Paul Tonner to reply.

MR. TONNER: That is correct. We only did the one in 2005, and then we did the second one this year.

MEMBER HARVEY: Okay. So that is the reason why you don't know when it started?

MR. McGEE: Brian McGee, for the record.

So to summarize those thermo couples, the thermo wells that we have the degradation have not been previously inspected in the 20 year history.

MEMBER HARVEY: Thank you.

THE CHAIRPERSON: Further questions? Mr. Graham?

MEMBER GRAHAM: Just a question for clarification.

You mentioned the temperature in the tank was decreasing, I believe, very, very slowly, and you're not heating. Is there any possibility of reaction that the tank could -- the material could heat on itself and the temperature could start going up? I guess, is there any cause for concern that the temperature will continue to drop -- that it may start to rise, not a concern that

it may drop, but it may start to rise on its own?

MR. McGEE: Brian McGee, for the record.

We have no concern that the tank temperature will start to increase. Right now we, as I've mentioned before, we have a significant margin to the point where we would have any concern from a criticality safety point of view on the continuing decrease of the temperature, but we see no phenomenon or no mechanism that would cause the tank temperature to increase.

There are some, you know, to highlight Mr. Howden's concern, we are concerned about -- we've gone through a process where we've satisfied ourselves that we're in a safe state. We've taken conservation actions to ensure we remain in that safe state, but there is no "do nothing" option here either and as Mr. Howden, you know, explained, we do need to keep progressing this investigation.

We're as concerned as CNSC Staff are. We do need to keep progressing this investigation, but, you know, in terms of the timeline, some part of that is my doing in that I've given my Staff clear direction, do it in a conservative manner, do it with well thought out plans. There's a lot of industry experience where without having thought out the full scope of the hazards, people have gotten into dose exposure, radiation exposure

situations, and I would rather not be sitting here explaining to you why we got into that situation.

So we're on high ground now. We're satisfied we have a substantial margin but we do need to keep progressing this investigation and we will, and we'll do it in a safe manner conservatively and in a way that ensures we protect the facility and we protect our workers.

MEMBER GRAHAM: Well, that was the base of my question. Is there – and I guess you have assured us, that the gun is not to your head as far as getting things done quickly, you can take your time and do it properly?

MR. McGEE: Brian McGee, for the record.

Take our time within reason, you know, I want to be progressing this in a positive manner. I want – and you know I think you will see us continue -- you know, some of the early stages of this is the discovery phase where you're understanding what are the radiation hazards; what are some of the mechanisms; what are some of the tooling that you need? We have a mock-up built, so I believe that my expectation is that we will now continue to progress this and we'll start to come up with answers in a faster rate, but we will do it in a safe manner too. And if we come up against something unexpected, we'll stop long enough to understand that.

THE CHAIRPERSON: Dr. Dosman?

MEMBER DOSMAN: Thank you, Madam Chair. I'm trying to fully understand. Why was the thermo couple perhaps, it's been stated but I'm not quite clear. Why was the thermo couple replaced last year? Was it malfunctioning and was it wet or corroded?

MR. McGEE: Brian McGee, for the record. I'll ask Paul Tonner to answer the full question but when we took it out last year, it was not wet. I believe it was failed, and, Paul, could you elaborate?

MR. TONNER: Paul Tonner for the record. No, the thermo couple itself was operating perfectly. There was no issue with it. It was just prudent to change it as part of a preventative maintenance program.

MEMBER DOSMAN: But I take it that when it was changed, the others were not checked; is that right?

MR. McGEE: Brian McGee, for the record. That's correct.

MEMBER DOSMAN: And could you tell me, please, what's the worst case scenario here?

MR. McGEE: The worst case -- Brian McGee, for the record.

The worst case scenario would -- right now I would say we've talked about some of these, you know,

and it depends, there's degrees of a worst case scenario, I guess.

The worst case credible scenario right now would be that the thermo wells themselves, we don't believe there's any reason where at this point based on some, you know, the research that we've done, the investigations we've done, we have some of the best people in the field working on this; we don't believe that there's an integrity issue with the inner tank.

We believe the worst case scenario -- the worse case credible scenario right now is that we will have to seal those thermo wells at some point, maybe not the full extent of the thermo well, but seal them at some point in order to heat and pressurize the tank.

There is an option we're also exploring to make it basically a confinement and de-rate the tank, but we need to understand more before we do that.

Right now, just to give you a sense, the tank was originally designed for 50 PSI. All of our analysis is based on its integrity as a pressure boundary at 50 PSI gauge. We have not operated it at 50; it's been limited to 15 PSI gauge for many years now.

So right now we're working on an integrity case around 50 knowing that we will only ever operate it at 15, but the worst case would be, we'd go to a vented

confinement and de-rate the tank to atmospheric tank.

MEMBER DOSMAN: Madam Chair, if I might. Is the worst case scenario not that a temperature rise in the tank could go undetected if there were thermo couple failures and this could result in failure; is that the worst case scenario?

MR. McGEE: Brian McGee, for the record.

We are still monitoring the temperature, so we still do have the ability to monitor the vault temperature as well as the tank temperature to some extent. Right now, again, we don't see that as a risk.

THE CHAIRPERSON: Dr. Barnes?

MEMBER BARNES: Why is it prudent to replace one of the thermo couples in 2005 and not the others?

MR. McGEE: Brian McGee for the record. I'll ask Paul Tonner to reply.

MR. TONNER: Paul Tonner for the record.

It takes a day's work to replace each thermo couple. The thermo couples are redundant in a sense that three independent measurements of almost the same -- very close locations.

So it's, from a preventative maintenance point of view, it makes sense to change one -- say one per year and that's what had planned to do rather than

changing them all at once.

MEMBER BARNES: But they haven't been changed for 20 years, is that right?

MR. McGEE: Brian McGee, for the record.

That's correct. It's not uncommon to stagger a preventative maintenance program like that. The other advantage of that too, is that if you, you know, when you replace one or test one if there's something, you have other devices that haven't been affected by the maintenance, so if there's something, a weakness in your maintenance or a weakness in the component that you've used or installed, you have some depth on by not doing them all at the same time. So it's very common for maintenance programs to have a staggered approach like that or there's redundancy.

MEMBER BARNES: And from a chemical viewpoint, does that give you any clues as to the duration of this corrosion, how long it has been operating?

THE CHAIRPERSON: From AECL's point of view.

MEMBER BARNES: AECL to answer.

MR. McGEE: Brian McGee, for the record.

The changeout in 2005 as Mr. Tonner mentioned, there was no evidence of leakage on that at that time and there was no evidence of leakage on that one

now. That's the good thermo well right now. And, so I don't think it tells us very much honestly.

MEMBER BARNES: That was on the good one; what about the corroded ones?

MR. McGEE: Brian McGee, for the record.

So if I understand your question, or maybe if I can explain it again and see if it answers your question, in 2005 the thermo couple that we tested was in a thermo well that was dry then and is dry now.

MEMBER BARNES: Right.

MR. McGEE: We didn't go and look at the other ones.

MEMBER BARNES: No, but in having looked at them now, you see that it's corroded?

MR. McGEE: Right.

MEMBER BARNES: Right? That's what you have been showing us?

MR. McGEE: That's right. So the thermo couples that we ---

MEMBER BARNES: On the basis of the extent of the corrosion, does a -- can a chemist tell you how long that corrosion process has been operating?

MR. McGEE: Brian McGee, for the record.

No, there is no indication that that's true. That doesn't give us a correlation to a corrosion

rate.

MEMBER BARNES: Okay. But to come back to Dr. Dosman's question. Surely one of the worst case scenarios is that the inner tank has been breached?

MR. McGEE: Brian McGee, for the record.

That would be -- I'm not sure in total scope of worst case scenarios, I'm not sure that would be the worst. It would be worse than the one that we're considering right now, but, again, we have no evidence of leakage between the tanks. We do have a leak monitoring capability there, no evidence of leakage between the tanks. All the evidence to this point, and it's quite credible evidence being examined by some of the top people in this field, indicate that it's -- the corrosion is sourced from outside the tank, it's the chlorides which shouldn't -- you know, it shouldn't have any impact on the overall integrity of the tank. And so right now there's no reason for us to believe that's a credible scenario.

MEMBER BARNES: So in the area of the welded seal of the inner tank, there's no danger of corrosion at that point?

MR. McGEE: Brian McGee for the record.

The concern that we had and the reason that we locked out heating and pressurization of the tank was that until we understand more about the leak itself, under

pressure our concern was that we could push "FISST" solution up the thermo well and out the tank that way. So we've taken compensatory actions to preclude that possibility.

MEMBER BARNES: If you had to replace the material in the tank, do you have an alternative location for it?

MR. McGEE: Brian McGee, for the record.

This tank is destined to be decommissioned and that will be done through the liquid waste transfer and storage system that right now is in the early stages of design and construction.

Right now the plan is that in around 2012 the tank would be completely emptied and decommissioned at that time. One possibility, if we get into consequences that are more severe than we believe that we're into right now, one, we would look at accelerating that but we'd have to look at it in the total integrated project because the tanks on the site that are destined to be emptied and decommissioned we're selected on a priority basis.

So, before we would swing over to this tank, we'd have to understand that, you know, what we're doing to the other priority set, but we would look at that. In fact we're considering those implications right now.

MEMBER BARNES: Thank you.

THE CHAIRPERSON: A question for Staff.

These tanks are under safeguards; are there any safeguard issues with regards to this problem?

MR. HOWDEN: Barclay Howden speaking.

No. They are under safeguards and there are no issues involved with them and we have our safeguard specialist who can speak to it.

MS. MAXWELL: Rowena Maxwell, Safeguard ISD.

No, there no safeguard concerns with this facility.

THE CHAIRPERSON: Thank you.

Any further questions? Well, obviously from the nature of the questions you can see that the commission wishes to follow this matter very closely and we look forward to updates as appropriate from the Staff or from AECL, so thank you very much for coming today.

We will now move to 4.1.3. I'll get the Staff to change. C'est une -- qui concerne Gentilly 2 à Hydro Québec . C'est numéro 4-1-3 à leur centrale à Gentilly 2 à Bécancour. L'item au sujet du, comme j'ai dit, à Bécancour. Monsieur Grant, avez-vous de l'information additonnelle pour ajouter à ce sujet ?

MR. GRANT: Bonjour, madame la Présidente

et membres de la Commission. Je suis Ian Grant, le directeur général de la direction de centrale de puissance et avec moi, Monsieur Ken Lafrenière, le directeur de la direction de règlementation de Gentilly. Non, nous n'avons pas de renseignements supplémentaires à ajouter au rapport mais nous sommes disponibles à répondre aux questions de la Commission, s'il y en a.

THE CHAIRPERSON: Merci, J'ai vu qu'il y un représentent d'Hydro Québec avec nous. Est-ce que vous avez des commentaires additionnels concernant la sujet qui est devant nous?

MR. DESBIENS: Bonjour madame la présidente et members de la commission, Patrice Desbiens. Chef de sûreté nucléaire à la centrale de Gentilly 2 pour Hydro Québec. J'ai rien de plus à ajouter mais ça me ferais plaisir de répondre à vos questions, si vous en avez.

THE CHAIRPERSON: Voilà, Merci. Est-ce qu'il y des questions. Mr. Harvey, des questions?

MEMBER HARVEY: Merci madame la présidente, J'aurais une question à savoir si ce type d'événement est arrivé à plusieurs reprises ou si c'était quelques chose de nouveau pour vous.

MR. DESBIENS : Patrice Desbiens, C'était la toute première fois que cet évènement est arrivé. L'essai qui était en cour, au moment ou l'incident s'est

déclaré, est fait à chaque année. C'est la première fois que ça a généré un incident comme celui là.

La raison, c'est un vis de procédure qui était présent, qui était présent à chaque fois qu'on a fait le test dans le passé mais on avait ajouter des étapes supplémentaires dans la procédure, cette fois ci, pour faire de la double vérification et cette double vérification là à eu comme effet de retarder la durée de l'essai et c'est ces délais additionnels là qui ont fait, finalement, qui ont provoqués la perte d'air qu'on a eu et qu'on avait jamais eu autrefois parce que les temps d'interventions faisaient qu'on atteignait pas le point de non retour qu'on a franchis cette fois ci.

MEMBER HARVEY : Merci.

THE CHAIRPERSON: D'autres questions? On parle des Commissaires. Any other questions? No? Dr. Dosman?

MEMBER DOSMAN: Madam Chair, I wonder if I might ask you to go back, if there was any risk, radiological risk to any of the workers on the site?

MR. DESBIENS: Patrice Desbiens, Il y a eu aucun rejet radiologique d'aucune nature pendant cet incident là.

THE CHAIRPERSON: Merci, D'autres questions? Merci beaucoup.

Mr. Grant has to stay. The next item on the agenda is CMD 06-M-44 and 06-M-50, status reports on power reactors.

Mr. Grant, do you have anything that you'd like to add with regards to these updates?

06-M44 /06-M50

Status Report on Power Reactors

MR. GRANT: No, Madam President. Nothing further to add to the status report in 06-M-44.

THE CHAIRPERSON: Are there any questions from Commission members with regards to the status report? Seeing no questions, thank you very much, Mr. Grant.

The next item on the agenda is the status report on site conditions and progress on the Licensing Process of Waste Management Areas owned by Crown, Historic Contaminated Lands, and the Deloro Mine Site.

This is CMD 06-M-52 and as I noted, this is a Status Report and we will invite the Staff to come to the front. No rest at all, Mr. Howden.

MR. HOWDEN: Good morning, Madam Chair, Members of the Commission. For the record, my name is Barclay Howden. I'm Director General of the Directorate of Nuclear Cycle and Facilities Regulation. With me today, is Mr. Robert Barker, Acting Director of the Waste and Decommissioning Division and Julie Mecke and Ron

Stenson, Project Officers within this Division for these sites and activities. I will now pass the presentation on to Mr. Stenson.

MR. STENSON: Thank you. Good morning, Madam President and Members of the Commission. For the record, my name is Ron Stenson and I am the Project Officer in the Wastes and Decommissioning Division.

Exemptions for the Deloro Mine Site and a number of small contaminated sites across Canada, including those listed here, were first granted by the Commission in December of 2001. These exemptions were requested by Staff to allow time to complete the licencing process for sites identified requiring a licence and to allow Staff to continue to the lands evaluation process for sites where insufficient information existed to determine regulatory requirements.

The Commission in its decision directed CNSC Staff to report annually on the status of the exemptions to ensure that both the Commission and the public are kept informed of site conditions and the licencing progress.

In this CMD Staff are providing in the Commission with its fifth annual update. Staff are also requesting that the Commission make decisions on a ten-year exemption from the requirement for licencing the

possession, management and storage of nuclear substances at the identified contaminated sites under institutional controls.

The Deloro Mine Site, the Ontario Ministry of the Environment continues to monitor and maintain the site. CNSC Staff inspects the site annually. CNSC Staff concludes that the site will not pose an unreasonable risk to the environment or to the health and safety of persons within the current exemption period. Due to delays in the environmental assessment process there may be insufficient time to complete the CNSC licencing process before the expiration of the current exemption.

If this becomes the case, CNSC Staff will return to the Commission in the fall of 2007 to justify and request an extension to that exemption. In the interim, CNSC Staff is working with the Ontario Ministry of the Environment Staff on the environmental assessment and the subsequent licencing review process.

"Contaminated lands under institutional controls": as listed here, the historic radiological contaminated lands under institutional controls are currently under a set of exemptions which will expire on December 31st, 2006. The relative location of the contaminated land sites are presented here on this map.

So since 2001 when the original exemption

was granted, CNSC Staff have monitored safety at the sites. CNSC Staff have established good lines of communication with government agencies, land owners, aboriginal communities and the general public.

The sites have remained well managed under the institutional controls described in the following slides. Since 2001, the low level radioactive waste management office's ongoing commitment to respond to requests for technical assistance, has resulted in safe clean-ups of properties in Port Hope, Toronto, Fort McMurray and the Northwest Territories.

National Resources Canada is involved in ongoing efforts to established long-term programs to manage the sites in Port Hope, Toronto and the Northwest Territories, and CNSC Staff are working with the low level office to ensure that all stakeholders and First Nations Bands are aware of the sites and there's been a willingness to cooperate which has been demonstrated by these groups in ongoing efforts to maintain safety without causing an undue burden to owners or the general public.

CNSC Staff will continue to monitor safety at these sites through periodic site visits and CNSC Staff will continue to work with all interested parties through consultation and other outreach activities

"The Port Hope unlicenced sites": Existing

low level radio active waste management office programs ensure safety at these sites including the construction monitoring program, the property monitoring program and the environmental monitoring program.

Although many of these mildly contaminated sites have never been remediated, it is intended that they will be remediated under the proposed Port Hope area initiative. CNSC Staff is kept informed of interim activities taking place at unlicenced sites directly by the low level of radioactive waste management office and through reports associated with the low level offices licences "WNSL W2-2202" and "WNSL W1-182."

CNSC Staff continues to monitor these sites through periodic inspections and the last such inspection took place September 15th, 2006. No issues of concerns were identified.

"The Toronto area sites": A second group of sites result from historic radium industry practices in the Greater Toronto Area.

Some of these sites are privately-owned buildings with fixed contamination and were remediated to the standards at the time in the 1970's.

CNSC Staff is in regular contact with the owners and managers of these sites and has provided information to them on their obligations **under Nuclear**

Safety and Control Act. The land owners have agreed to contact the CNSC and the low level office in the event that they wish to renovate, excavate or construct in the areas that have been identified to them as mildly contaminated.

The low level office has agreed to provide technical assistance and to take possession of contaminated materials on a site specific basis with the burden of cost being determined by the owners and the low level office at the time.

The low level office has been involved in six remedial exercises under the existing institutional control arrangements since 2001.

CNSC Staff has visited many of the Toronto area unlicenced sites to visually assess their condition and to periodically take spot radiation readings. The most recent site visits took place during the week of July 17th, 2006. No issues of concern were identified.

CNSC Staff have also been involved and consulted on an environment assessment affecting one of the sites and discussions on future planning initiatives which may require our regulatory involvements.

"The northern transportation route sites": The northern transportation route sites include primarily public-owned sites originally exempted under three

separate exemptions for the Fort Fitzgerald area, the Fort Smith area and the Sahtu Region sites.

The sites with contamination exceeding the Old scheduled quantity per kilogram were remediated by the low level office in the 1990's to the standard of the time.

Institutional controls include the identification of the sites and data bases used by permitting boards and agencies in the Northwest Territories and Alberta. This has triggered six requests for input on proposed land uses at these sites: three from the Sahtu Land and Water Board and three from the Northwest Territories Environment and Natural Resources.

CNSC Staff also maintains contact with local stakeholders and aboriginal nations. Since 2001, a number of sites have been remediated under WNSL W-2, 2002 and others have been further characterized by the CNSC and the low level radioactive waste management office.

This detail characterization led to the removal of a number of sites from the list of those requiring CNSC regulatory oversight. CNSC Staff periodically inspect the sites to assess safety, maintain contact with local institutional control partners and to meet our obligations to consult with aboriginal nations. Our next inspections are planned for 2007.

Recently the low level office has been directed by NRCan to work with the territorial and local governments to develop a plan to clean up the existing mildly contaminated northern transportation route site.

CNSC Staff is being kept informed on the progress of these discussions and has provided guidance on the possible regulatory requirements associated with potential options being discussed.

To conclude, Staff recommends that the Commission accepts Staff's determination that there is no requirement for an environmental assessment pursuant to the **Canadian Environmental Assessment Act** or to the **MacKenzie Valley Resource Management Act** to issue the exemption from CNSC licencing for the possession, management and storage of nuclear substances at the historic contaminated land sites listed in Appendix 2 of CMD 06-M-52.

06-M52
Status report on site conditions and
progress on the Licensing process
of waste management areas owned
by the Crown, Historic Contaminated Lands,
and the Deloro Mine site.

And CNSC Staff recommends that the Commission issue an exemption under Section 7 of the

Nuclear Safety Control Act from licencing for the unlicenced sites listed in Appendix 2 of the CMD for a period of ten additional years ending 2016, December 31

CNSC Staff is suggesting that the schedule for the submission of Staff reports to the Commission on the status of the unlicenced sites be reduced from annually to a three-year cycle, the first of which will be in 2009.

In the interim, if any significant issues arise, CNSC Staff will report to the Commission with a significant development report. Thank you very much.

MR. HOWDEN: Madam President, this concludes Staff's presentation. Staff is available to respond to questions.

We'd like to note that Mr. Bernard Gerestein from the low level radioactive waste management office is present and is prepared to answer any question that the Commission may have of him as it relates to the issues in this CMD and the mandate of his organization.

THE CHAIRPERSON: Thank you very much. Would we start with Mr. Graham, then?

MEMBER GRAHAM: Just a question with regard to the Greater Toronto Area sites; how many are there?

MR. HOWDEN: Barclay Howden speaking.

I'm going to ask Julie Mecke, the

responsible project officer, to respond.

MS. MECKE: Julie Mecke, for the record.

There are approximately eight sites in the Greater Toronto Area.

MEMBER GRAHAM: So when you mentioned the overheads on July of 2006, there was an inspection made and there were no issues; the inspections were of all the sites that Ms. Mecke refers to?

MS. MECKE: Yes, that is correct.

MEMBER GRAHAM: Over the terms -- and I guess I don't how far back we go, but say in the last five years, has there been issues with regard to any of the sites, not necessarily the Toronto, but of any of the sites that have come forward that may be a concern to health and safety of people?

MR. STENSON: Ron Stenson.

Over the course of the five-year exemption there have been a few times when we've been approached by members of the public who want to do work on their property.

We've provided them with technical guidance on how to do that properly and what the requirements would be. The low level office has cooperated in providing also technical assistance and taking possession of materials.

We haven't had any issues where someone has

unwittingly gone ahead and done work or caused themselves any undue harm or risk.

THE CHAIRPERSON: I'm just trying to understand the exemption request; does the exemption request -- the mountain consolidation; you're asking that you wouldn't come back until 2016 on that one as well?

MR. STENSON: No. The exemption request does not include any of the consolidated mountains.

THE CHAIRPERSON: Just to clarify. Mr. Harvey?

MEMBER HARVEY: Merci, Madame la Presidente.

When you say you inspect a site; what is the nature of the inspection?

MR. STENSON: Ron Stenson.

Depending on the type of site, we visit the site. We usually have instruments with us and we'll take general radiation fields. We've -- if it's an indoor site like some of the buildings in the Toronto area, we will take swipes periodically to see if there's loose contamination and we have all of those analyzed.

There's no water involved in most of the sites, however, we have in the northern transportation route sites, taken water samples of water sources adjacent to the sites just to verify that there's no overland flow.

And those results are reported to the owner as well as shared with the low level office and often with the local community, depending on the level of interest.

For instance, again, in the northern transportation route sites, some of the sites are part of aboriginal land claims and so there's a bit more heightened awareness when we come in and do some work in the area. So we do share the results and to date, we've had no indication that the sites are impacting on the local environment.

MEMBER HARVEY: Thank you.

THE CHAIRPERSON: Dr. Dosman, do you have a question?

MEMBER DOSMAN: Thank you, Madam Chair.

May I ask, is the inventory listed on Appendix 1 and the inventory listed on Appendix 2, do these sites represent all of the remaining sites in Canada or are there yet others that are not included in these lists?

MR. STENSON: Yes, Ron Stenson.

The difference -- first, just to clarify, the Appendix 1 list is the original list which includes all of the sites that we didn't have sufficient information to make a regulatory determination on, so, in fact, there's probably more sites listed on Appendix 1

than on Appendix 2. But these, both Appendix 1 and Appendix 2, represent all of the sites that we know about and we're very confident that we have a good handle on the information.

On the other hand, we can't guarantee that there wouldn't be some other site that maybe identified, but, to date, this site, this list represents the sites that have been identified that we know about.

MEMBER DOSMAN: Madam Chair, so, do I -- is there any active remediation going on in any of the sites or are we simply taking the actions outlined?

MR. STENSON: Ron Stenson.

There's – today there's no active remediation going on, on the sites, however, as the owners, whether that be publicly owned or privately owned, wish to move forward with activity on their sites, then they contact us at the low level office and we give them advice on how to do that. And that's taken place about ten times over the last five years where there's been proper approaches taken and proper clean-ups done on some sites.

In the future, there may be plans along -- in particular the northern transportation route to do a concerted effort on cleaning up those sites. And with the approval of the Port Hope area initiative, which is a

separate licencing initiative, many of the sites that are listed in here for the Port Hope area would be remediated according to the plans under the Port Hope area initiative.

MEMBER DOSMAN: Sorry to prolong the discussion, I would just like to, with your permission, ask one more question.

For example, in the urban sites in Toronto, I take it, or perhaps you might confirm my thought, that the value of the cost of cleaning this site is in excess of the value of the real estate or the site would be dealt with it; is that the issue?

MR. STENSON: Ron Stenson.

Primarily, the material in the building sites in Toronto, a lot of the buildings are very expensive real estate and the fixed contamination is on the structural components.

So in order to actually remove the contaminated material from the building, you would have to demolish the building with very minor exceptions. And in fact the cost of clean-up at that point would be the cost of the building and the buildings are occupied and they are in prime locations and most -- the owners are really reticent to do so.

At the same time, we are confident that the

occupation of the buildings and the their current uses does not result in a hazard because of the fixed contamination.

MEMBER DOSMAN: Thank you.

THE CHAIRPERSON: Dr. Barnes?

MEMBER BARNES: I just want to get clarification on one of the bullets in your powerpoint, Image 6, which followed the map.

The third one says:

> "Natural Resources Canada continues its efforts to establish long-term programs for these sites."

So that suggests that it's having some difficulty in getting the programs in place, and I didn't know if that was financial resources, Staff resources or the complexity of the stakeholder mix there that's ---

MR. STENSON: Ron Stenson.

Without pretending to be able to speak for NRCan, who unfortunately isn't present, my understanding is that there's a complexity of stakeholder government policy interactions that makes it problematic to create a policy or a plan to do the work immediately.

I know that there's consultations going on in the Northwest Territories with the Northwest Territories government and the local governments which has

just started and, of course, the Port Hope area initiative is a plan that had been decided on is moving forward.

So it is really a complexity of stakeholder relations mixed with the policy implications for the federal government, but that's my understanding of NRCan's position.

MEMBER DOSMAN: And do I take it that the renewed interest in pipeline development in the MacKenzie Valley doesn't essentially intersect these geographically, these areas?

MR. STENSON: Ron Stenson.

No. In fact, some of the reviews that we've done for the Sathu Line, the water board have been because of infrastructural support for the pipeline and they don't intersect these sites at all.

THE CHAIRPERSON: But just to follow up to this, you know, I think there's a reasonableness maybe to ask, how do we light a fire under this?

I mean this has been an issue in the Northwest Territories that has come up and down for a long, long time and I just -- it's not the CNSC's responsibility to do that, but it is the CNSC's responsibility to look at oversight. And I don't know if there's -- so it's NRCan's responsibility to set the policy; is that your understanding on this, versus, say,

Diane?

MR. STENSON: Ron Stenson.

Yes, it is NRCan's responsibility because these are classified as historic waste sites. I know that there are discussions between NRCan and Indian & Northern Affairs on some of the jurisdictional issues and perhaps Staffing, but I really can't speak to those, but it is -- it's a policy decision that has to be made and followed through on.

THE CHAIRPERSON: Would you like to comment at all on that issue?

MR. GERESTEIN: Bernard Gerestein, Low Level Radioactive Waste Management Office.

Good afternoon, Members of the Commission, Madam President.

It's -- I don't want to give the impression or we shouldn't give the impression that nothing is happening in the north because it is and Indian and Northern Affairs -- perhaps, not on these sites but with Port Radium and other locations, the government has put in place a contaminated sites clean-up and that's being managed essentially by Indian and Northern Affairs. And the low level office just in the past week actually has been in Tulita a cleaning up a mound that has existed for about ten years, putting that mound into manageable one

metre bags so that these bags can eventually be returned back to the Port Radium sites. So things are happening in the north

But you're supposition is correct, Madame Chair, that it is a policy issue and to some extent, a financial issue with Natural Resources Canada.

THE CHAIRPERSON: I think it would be reasonable for us to send a signal via you to NRCan that this seems to be taking an inordinately long time.

We had to send a signal on Chalk River as well that it was taking an inordinate amount of time to make some policy commitments to various things. And certainly we're not talking here about anything like the same concerns, but we would hate to see this fall off the agenda if we allow the three-year reporting period.

It couldn't be seen as falling off the agenda which really concerns me with us not having the annual updates. I think it might be the sole way that this is staying on the agenda in some areas. You know, I hate to think that but I'm maybe left to believe that if we don't keep the focus on through use of expensive Commission time and expensive Staff time, that this would fall off the agenda.

So I think what we'll try to do is through the CNSC Staff, seek some sense of understanding of where

that's going in that and the Commission will make its own decision with regards to the length of time, but I think should be considered an inordinate amount of time to do this.

This has happened since the war for heavens sakes, you know; when do we get on with it I guess is the question we should ask ourselves as Canadians.

Dr. McDill?

MEMBER McDILL: My questions seem, after that comment, rather small.

I wonder if I could ask, with respect to slide 10, there's the statement that this reduced the number of sites of concern. How many was it reduced by, if I could ask Staff, please.

MR. STENSON: Ron Stenson. Along -- specifically along the Great Bear River there were 12 separate sites that had been identified as potentially being contaminated by portage and transportation over land routes. And we've reduced that to two areas of concern.

And in the South Slave area, in fact there was originally – it was eight or nine sites that had been identified, three of which were private properties that were cleaned up early in the clean program, and leaving approximately six, one of those being a very long haul route that we had no information on, but that – those

sites were characterized by NRCan and the low level office two years ago, and now we've reduced that to two sites, one of which could contain two small sites. But of the original-named sites, it's been reduced to two.

MEMBER McDILL: And in 3.1.3 you were referring to contamination to 1/SQ per kilogram. First of all, remind me what that is, and they were remediated to the standard of time which was what?

MR. STENSON: Ron Stenson again.

"One scheduled quantity per kilogram" was the old licencing limit that we had under the **Atomic Energy Control Act**, and at the time that was - the remediation was to bring any remaining contamination on the property would be below that limit. In some cases it was well below that limit, and in other cases it was closer to the limit.

MEMBER McDILL: And can you define for me "scheduled quantity?

MR. STENSON: Ron Stenson.

The scheduled quantity, it was the schedule in the Regulations that listed per nuclear -- radio isotope or nuclear substance -- the amount of material that was considered safe, I guess, based on the current pathways assessments at the time, which was related to the public dose limit.

THE CHAIRPERSON: Further questions?

Well thank you very much and the Commission will make a decision on your proposal as time permits. Thank you very much.

That brings to the end the public portion of this meeting. We will take a break until -- we will be taking a break for an hour, but we will be moving on to the *in camera* sessions, so we will be through, the Staff of the Commission, contacting people as it is appropriate to come into the back and hear the private -- the security testimony.

So thank you very much for attending the meetings today. Thank you.

Meeting adjourned at 12:35 p.m.