

PUBLIC HEARING

SYDNEY TAR PONDS AND COKE OVENS SITES

REMEDICATION PROJECT

JOINT REVIEW PANEL

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V O L U M E 11

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HELD BEFORE: Ms. Lesley Griffiths, MCIP (Chair)  
Mr. William H.R. Charles, QC (Member)  
Dr. Louis LaPierre, Ph.D (Member)

PLACE HEARD: Sydney, Nova Scotia

DATE HEARD: Wednesday, May 10, 2006

PRESENTERS: Cape Breton University:  
Dr. Jane Lewis

Mr. Ron MacCormick

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QUESTIONING

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1 --- Upon commencing at 5:49 p.m.

2 THE CHAIRPERSON: Good evening, ladies and  
3 gentlemen.

4 Tonight we have two presenters: Cape  
5 Breton University and Dr. Ron MacCormick.

6 Before we move to our first presenter, I  
7 am going to ask if -- we'll attend to housekeeping, and I  
8 will ask if -- first if the Tar Ponds Agency has anything  
9 they wish to file, and then if anybody else -- any other  
10 participants have any undertakings that they have  
11 completed.

12 Mr. Potter?

13 MR. POTTER: Thank you, Madam Chair. We  
14 do have a couple of hand in undertakings, one I'll read  
15 in.

16 Undertaking 4 was an undertaking we  
17 provided information on before, examples of salt on SS.  
18 We do have an additional site reference. We'll pass that  
19 in. It's a project we did find.

20 Undertakings 13 and 19 regarding detection  
21 limits, how they compared to the nose and -- odour  
22 detection limits of the human nose. They're essentially  
23 the same undertaking. We've combined those two. That  
24 will be a hand-in.

25 We do have the geophysical reports from

1 last night that we were discussing. We don't have an  
2 undertaking number for those yet, but we do the two  
3 geophysical reports that we'll provide. Both those  
4 reports are on our web site. We'll also provide an  
5 electronic copy of the reports as well.

6 Undertaking No. 24 was regarding -- I'll  
7 just read through this. I think it's pretty self-  
8 explanatory, and we'll provide this as well.

9 "The undertaking asked the STPA to  
10 prepare a map of the Tar Ponds  
11 showing a sampling grid necessary to  
12 ensure with 95 percent confidence  
13 that all hot spots of PCB  
14 contaminated material greater than 50  
15 parts per million of volumes of 10,  
16 100 and 1,000 cubic meters will be  
17 excavated, given the existing data.  
18 In addition, the undertaking asked  
19 for STPA to estimate the maximum  
20 volume PCB contaminated material that  
21 may remain after the proposed  
22 excavation."

23 The response is as follows, and as I said,  
24 we will provide that hard copy:

25 "It is unnecessary to provide the

1 number of samples required to ensure  
2 with a certain degree of confidence  
3 that all sediments with PCBs over 50  
4 parts per million will be removed  
5 when the goal of the proposed project  
6 is clearly to remove and destroy only  
7 the majority of the PCB material  
8 greater than 50 parts per million.  
9 It has not been stated nor inferred  
10 that all PCB materials greater than  
11 50 ppm will be removed and destroyed.  
12 The STPA has previously stated in the  
13 response to IR 12 that the proposed  
14 project will result in the removal  
15 and destruction of 40,000 -- roughly  
16 40,000 cubic meters of PCB material  
17 over 50 ppm containing approximately  
18 3,300 kilograms of pure PCBs from two  
19 areas that contained the previously  
20 mapped areas of PCB material greater  
21 than 50 ppm. The areas planned for  
22 excavation and destruction comprised  
23 89 percent of the volume of PCB  
24 material over 50 ppm. STPA  
25 recognizes that all areas containing

1 PCBs -- PCB material over 50 ppm will  
2 not be excavated and destroyed. We  
3 know from the existing database of  
4 over 1,000 existing samples that  
5 areas that contain PCB materials over  
6 50 ppm will be stabilized and  
7 solidified in place instead of being  
8 removed and destroyed. Our estimates  
9 show that this is -- this amount is  
10 11 percent of the total volume of PCB  
11 materials over 50 ppm. The volume of  
12 this material is roughly 4,900 cubic  
13 meters containing about 409 kilograms  
14 of pure PCBs."

15 And we'll submit that as an Exhibit.

16 Thank you.

17 THE CHAIRPERSON: Thank you, Mr. Potter.

18 Are there any other undertakings to be  
19 submitted at the moment?

20 Yes, Dr. Ignasiak?

21 MR. LES IGNASIAK: I just wanted to inform  
22 the Panel that I submitted to the Secretariat the  
23 undertaking in connection with my exchange of information  
24 over a difference of opinions during yesterday  
25 discussion.

1 THE CHAIRPERSON: Thank you very much.  
2 This is about the phenyls, is that correct?

3 MR. LES IGNASIAK: Including phenyls.

4 THE CHAIRPERSON: Including phenyls.  
5 Thank you.

6 We will now move on to our first  
7 presentation, Dr. Jane Lewis from Cape Breton University.

8 You have a maximum of 40 minutes if you  
9 require it, and I'll give you -- I'll let you know when  
10 you're getting within five minutes of that.

11 --- PRESENTATION BY CAPE BRETON UNIVERSITY (DR. JANE  
12 LEWIS)

13 DR. LEWIS: Good evening. And I don't  
14 think we'll have to worry about the time. We definitely  
15 do not expect our presentation to be a lengthy one. In  
16 fact, we expect it to be quite brief.

17 Good evening. Distinguished Panels,  
18 ladies and gentlemen: On behalf of Cape Breton  
19 University, I want to say that we're pleased to have the  
20 opportunity to present to you this evening.

21 The long awaited cleanup of the Sydney Tar  
22 Pond site is a matter of great importance to everyone in  
23 this community, and we believe the current environmental  
24 assessment review process is an important one. We are  
25 proud to play a role in it.

1                   Although I appreciate that it is  
2                   considered a great faux pas in public communication to  
3                   begin one's presentation with an apology or a caveat, I  
4                   nonetheless feel it's necessary for me to do so.

5                   I am not an environmental scientist, nor a  
6                   chemical engineer, and I'm not qualified to speak on some  
7                   of the specifics of the science to the reports I will be  
8                   referring you to this evening.

9                   On the other hand, as the Dean of  
10                  Education, Health and Wellness at CBU, the fact that I am  
11                  not the scientist behind these reports may, indeed, make  
12                  me exactly the right person to present.

13                  I, like many others in this room, am a  
14                  concerned citizen, and wants to make sure that the go  
15                  forward plans of this community is the right one, and the  
16                  healthiest one possible for us.

17                  Cape Breton University does not come to  
18                  this deliberation with any particular position to  
19                  advocate, or any technology to sell.

20                  We come to present what we believe are two  
21                  objective and scientific opinions on two different  
22                  technological options for the destruction of PCB  
23                  contamination at the Sydney Tar Pond site.

24                  Cape Breton University's commitment to  
25                  environmental remediation goes beyond any economic and

1 educational opportunities that might be afforded by a  
2 project of this magnitude. A sizable percentage of our  
3 3,500 students, and many of our 360 full time employees,  
4 were born and live within the boundaries of the Cape  
5 Breton Regional Municipality.

6 The Victoria Junction Coal Wash Plant is  
7 less than a quarter of a mile from our campus, a campus  
8 on which we now house more than 500 students.

9 It is imperative to us that the  
10 technologies employed in the environmental cleanup can be  
11 considered safe, and the risks that exist are both  
12 minimalized and managed.

13 In consideration of this, the role we  
14 played has been twofold: One, we sought to review the  
15 environmental impact statement. In particular, the  
16 impact of incineration at the Victoria Junction Coal Wash  
17 Plant. Our goal in this case was to present an  
18 unscientific view -- scientific review, or to seek one,  
19 of the science behind this proposed method of  
20 incineration. Second, we explored alternative PCB  
21 destruction technologies in the form of non-thermal  
22 Terra-Kleen Sonoprocess from Sonic Environmental  
23 Solutions Inc. of Vancouver.

24 I will first provide explanation of our  
25 exploration of Sonoprocess' technology.

1                   Sonoprocess technology provides non-  
2 thermal remediation which can operate on site. A  
3 preliminary laboratory scale evaluation of treatment of  
4 PCB containing Sydney Tar Pond soil was observed by a  
5 member of our chemistry department.

6                   The Terra-Kleen solvent extraction  
7 technology, specifically adapted for the Tar Ponds  
8 material, was first used to remove the PCBs from the  
9 soil.

10                  Initial concentrations of 160 parts per  
11 million PCB in the Sydney Tar Ponds soil sample were  
12 reduced to less than .25 parts per million PCB in the  
13 soil by extraction into a solvent.

14                  This concentrated solvent, now containing  
15 the PCB removed from the soil, was mixed with other  
16 solvents and processed using non-thermal Sonoprocess  
17 which destroys the PCB. From a small amount of extract,  
18 which originally contained 400 parts per million, there  
19 were no detectable PCBs after destruction.

20                  In evaluation of this particular  
21 technology, CBU's chemists sought primarily to evaluate  
22 whether claims by this particular company were, in fact,  
23 legitimate.

24                  To the extent that this process was  
25 applied under limited and controlled laboratory

1 circumstances, in lab size test quantities, CBU  
2 scientists were satisfied that this was true.

3 We cannot, however, offer additional  
4 scientific evidence regarding the potential for this  
5 technology to ramp up to a larger scale, nor did we  
6 investigate any cost benefit ratios. It was a very  
7 limited laboratory test that we conducted, but the  
8 results were positive.

9 A second step taken by CBU in its review  
10 -- critical review of the Environmental Impact Assessment  
11 Report was to hire an independent expert in combustion  
12 chemistry to review the suitability of rotary kiln  
13 technology for destroying PCBs.

14 After an extensive selection process, we  
15 chose Dr. John Grace to be an independent reviewer.

16 Dr. Grace received his PhD in Chemical  
17 Engineering from Cambridge University in 1968. He is a  
18 Professor of Chemical and Biochemical Engineering at UBC,  
19 and was the Head of Chemical and Biological Engineering  
20 Department at UBC from 1979 to 1987. He is well  
21 published, and his primary research interests are  
22 concerned with fluidized beds and retained multi-phase  
23 systems.

24 Dr. Grace's mandate was to investigate the  
25 feasibility of the PCB incineration on the Muggah Creek

1 and Victoria Junction Coal Wash Plants.

2                   Following thorough reading and analysis of  
3 the report, Dr. Grace conducted additional telephone  
4 interviews, on site interviews; he conducted a site visit  
5 of the Tar Ponds and the Victoria Junction site; and he  
6 provided us with a final, what we believe, is objective  
7 report that offered the following opinions.

8                   One, that a well designed, well built,  
9 well operated and well manufactured rotary kiln  
10 incinerator should be capable of operating within all of  
11 the applicable federal and provincial codes and  
12 guidelines.

13                   Two, there are risks and certainly  
14 disadvantages associated with leaving the Tar Ponds  
15 byproducts in place.

16                   Three, the risks associated with the  
17 proposed incinerator are manageable, given proper  
18 oversight, monitoring, best available technology, careful  
19 operation, and proper maintenance.

20                   In conclusion, while Cape Breton  
21 University does not see its role as advocating either  
22 rotary kiln combustion technology or Sonoprocess'  
23 technology in the eradication of PCB contamination from  
24 the Tar Pond site, our investigation allows us to  
25 conclude that either, in a properly implemented and

1 managed fashion, can do the job safely and effectively.

2 We have filed two reports with the Panel  
3 that either are or will be available publicly on the  
4 Panel web site, and both of the authors of the report are  
5 prepared to take specific questions to the science that  
6 they present by email.

7 Thank you for your time and consideration.  
8 While I probably will not be able to answer too many of  
9 the specific scientific questions, I will be happy to  
10 answer any regarding process or what we had hoped to  
11 obtain through our participation in this process.

12 Respectfully submitted on behalf of Cape  
13 Breton University, Jane Lewis.

14 CAPE BRETON UNIVERSITY

15 --- QUESTIONED BY THE JOINT REVIEW PANEL:

16 THE CHAIRPERSON: Dr. Lewis, thank you  
17 very much for your presentation.

18 Now, I take it the two reports -- now, one  
19 report is Dr. Grace's report, is it?

20 DR. LEWIS: Yes. One -- the author of  
21 one report is Dr. Grace, the second is Dr. Allen Britten,  
22 who is a scientist at the Cape Breton University.

23 THE CHAIRPERSON: Okay. Now, I understand  
24 Dr. Grace is -- you did, in fact, forward Dr. Grace's  
25 report to us. It actually arrived after the public

1 comment period ended during the adequacy review of the  
2 EIS, so it, in fact, did not get -- it is -- that report  
3 is on -- already on the Public Registry. However,  
4 because it arrived after the public comment period had  
5 ended, it was not submitted for comments from the  
6 proponent.

7 But this other report is a new report  
8 that, as yet, the Panel has not seen. That's correct.  
9 So that will -- and ---

10 DR. LEWIS: I believe we -- the report is  
11 -- I thought it was being filed today. We do have that  
12 report for filing.

13 THE CHAIRPERSON: Yes, but the Panel  
14 hasn't yet had an opportunity to see it.

15 Okay, thank you.

16 I'd just like to clarify something. You  
17 are speaking on behalf of Cape Breton University. Now,  
18 this would be on behalf of the Board of Governors? Is  
19 this on behalf of the faculty? If you could just  
20 clarify.

21 DR. LEWIS: I guess on behalf of the -- we  
22 struck a committee. I'm speaking on -- I'm not sure if I  
23 really speak on behalf of the Board of Governors. I was  
24 -- there were a group of us tasked for the University to  
25 set up a committee which is, I guess, the way

1 universities do things, to figure out the best way we  
2 should do this.

3 We did set up a committee of people from  
4 several areas of our institution, and that's how we  
5 decided the best way to approach it would be to hire an  
6 independent consultant and proceed this way.

7 THE CHAIRPERSON: Were the students  
8 engaged at all in this issue or in any of these  
9 discussions? Just asking out of curiosity.

10 DR. LEWIS: They were not involved in this  
11 specific discussion. Certainly, our students, because of  
12 the close proximity of the proposed incineration site,  
13 our students have had a great interest, like many other  
14 citizens, in overall discussions, but they were not  
15 particularly involved in this particular evaluation.

16 THE CHAIRPERSON: And your interest --  
17 your committee's interest in actually conducting some --  
18 or having someone conduct some tests for an alternative  
19 technology, perhaps -- could you just explain a little  
20 bit more about the rationale, why you chose to do that?

21 DR. LEWIS: We don't feel that we have any  
22 role to advocate any particular technology, but we do  
23 feel that, as a university, it's important for us to ask  
24 appropriate questions.

25 The particular technology, the Sonoprocess

1 technology that I mentioned, to our knowledge, this is  
2 the only place that this is happening in Canada. There  
3 was some interest by members of our Chemistry Department  
4 to find out about this particular technology, and to see  
5 if claims being made about it were true.

6 So, there was a limited study conducted,  
7 laboratory samples, and saying -- said -- that told us  
8 that yes, initial claims certainly proved to be true, if  
9 we look at limited lab testing. But that's as far as it  
10 went.

11 THE CHAIRPERSON: If an incinerator were  
12 to be sited at the VJ site and were to operate there in  
13 order to destroy PCB contaminated sediments from the Tar  
14 Ponds, did you discuss whether the University would want  
15 to have some particular involvements, in terms of any  
16 aspects of the operation and monitoring of that facility?

17 DR. LEWIS: Not this particular committee.  
18 This particular committee saw a role as being quite  
19 focused to look at the evaluation report, the assessment  
20 report.

21 The fact that the proposed incineration  
22 site is close to the university is something that has  
23 been of general discussion and concern, and I guess  
24 that's why it was important to us that we look at this  
25 and be assured, as we were in both of these cases, that

1 safe remediation is possible.

2 THE CHAIRPERSON: So, would you anticipate  
3 that the university will continue to be following this  
4 issue and be taking some active role as a stakeholder?

5 DR. LEWIS: We will definitely remain  
6 interested and continue to do -- engage in all kinds of  
7 investigation, I guess, related to this. We very much  
8 consider ourselves stakeholders in this, in the  
9 community, we're concerned about environmental issues in  
10 general, and we do feel that perhaps we are well situated  
11 to provide objective advice. We're not a commercial  
12 enterprise, we are an education entity.

13 MR. CHARLES: Madam Dean, you've got this  
14 report and it says that -- about the incinerator, and it  
15 says that if it's manufactured correctly and operated  
16 correctly and so on that it should be able to meet -- I'm  
17 trying to get the wording correctly -- it should be able  
18 to meet the requirements, the legal requirements for an  
19 operating incinerator. Is that the way the conclusion  
20 read?

21 DR. LEWIS: Yes. We did not try to  
22 redefine compliance or what has been determined as health  
23 parameters by the Government of Canada, we really looked  
24 at the proposed incineration to say is this safe, is it -  
25 - and our definition of that is, is this in compliance

1 with what has already been established as safe standards.

2 MR. CHARLES: Okay. I guess what I was  
3 getting at; we've heard testimony from members of the  
4 public and others here to the effect that incinerators  
5 don't always work one hundred percent of the time within  
6 the limits and some people have expressed the concern  
7 that, you know, unless it does work one hundred percent  
8 of the time I don't want to take any chances about what  
9 will happen when it doesn't work.

10 Your committee, I take it, is not  
11 concerned about those malfunctions or times when it might  
12 not work correctly? The report gives you the comfort  
13 that you needed?

14 DR. LEWIS: There are always risks  
15 associated with any remediation process. We are moving  
16 forward with the assumption -- and our report certainly  
17 gives us comfort -- that properly managed that risks can  
18 be minimized and that remediation can be conducted within  
19 what has been defined as safety standards.

20 MR. CHARLES: So, you recognize that there  
21 may be some risks but you're prepared to live with them,  
22 are you?

23 DR. LEWIS: In terms of "prepared to live  
24 with," I think we are accepting the reality that any  
25 remediation is going to have some risks and we are making

1 the assumption -- perhaps it's a leap of faith -- that  
2 this will be proceeding in the -- in a well-managed and  
3 implemented procedure.

4 MR. CHARLES: Thank you very much.

5 THE CHAIRPERSON: Well, thank you, Dr.  
6 Lewis. I will now invite questions from other  
7 participants. I will turn first to the Tar Ponds Agency.  
8 Do you have any questions for Dr. Lewis?

9 MR. POTTER: Yes, thank you, Madam Chair,  
10 just a couple of points, I guess, first and then perhaps  
11 one question.

12 I believe I've mentioned before we do work  
13 closely with a number of groups within the Municipality,  
14 including CBU. There's a committee set up that we deal  
15 with through the dean of science and we meet on a  
16 somewhat semi-regular basis.

17 We see the university as having a great  
18 opportunity for some research potential. As well, we'd  
19 like to, as much as possible, draw upon their expertise  
20 because they have expertise in certain areas that would  
21 be of interest to us.

22 We are actively participating with CBU  
23 right now in some research initiatives. They are  
24 assisting us with looking at some aspects of cover  
25 material in terms of suitability for the capping of, as

1 you know, a large part of both sites, the Coke Ovens and  
2 Tar Ponds. That's a joint venture between ourselves, CBU  
3 and DalTech in Halifax.

4 We have participated with CBU through the  
5 biology department. Dr. Martha Jones has done some  
6 research on fish in the Tar Ponds and we've contributed  
7 to that research as well.

8 We've made a commitment to the university  
9 for funding in support of their application for a major  
10 research centre at the university. The two levels of  
11 government have agreed to provide funding for that  
12 initiative if it receives further funding from other  
13 funding sources.

14 We work closely with the university, with  
15 students, both in regards to -- we -- routinely for some  
16 of the courses offered at the campus we provide -- it's a  
17 regular part of the course that they come in and receive  
18 tours of the site and presentations on various aspects of  
19 the work going on there.

20 We've had students from the biology  
21 department that have participated in tours of some of the  
22 remediation sites in Nova Scotia and New Brunswick.  
23 We've taken some community members around to see various  
24 bioremediation, incineration, and some capping at  
25 environmentally managed sites in the Maritimes.

1           We did take a university student from the  
2 chemistry department with us on the US tour we had last  
3 October. As well, I've been a guest speaker at some of  
4 the -- I guess, the graduation ceremonies at some of  
5 their -- some of the departments at the university.

6           And we have -- I believe I asked a  
7 question about if there is any interest of, I guess, the  
8 university participating in some form of a monitoring  
9 role with the project. We've, I guess, had some very  
10 preliminary discussions on that.

11           It's something that we'd be -- are  
12 interested in and would be willing to pursue as a  
13 possible opportunity for engaging somewhat of a third  
14 party, independent group, that might be willing to look  
15 at participating in some of the monitoring roles. It's  
16 very preliminary at this point in time but we have had  
17 discussions on that.

18           The one question I did want to ask Dr.  
19 Lewis is in relation to the sonic work that was done  
20 there. We understand the research that was done was very  
21 preliminary, some lab analysis.

22           I just wanted to confirm that the  
23 university is of the understanding that the sonic  
24 technology is not proven at the level that we would  
25 require for our project but it's -- as I understand, it's

1 a promising technology and does seem to -- as your data  
2 analysis has indicated, does seem to perform well at the  
3 level that was then examined.

4 THE CHAIRPERSON: Thank you, Mr. Potter.  
5 Just a question of clarification. Dr. Lewis refers to a  
6 committee that was formed to review aspects relating to  
7 the Environmental Impact Statement, you referred to a  
8 committee that you work with. Two different committees?

9 MR. POTTER: That would be my  
10 understanding. We've been meeting through the dean of  
11 science. Dr. Allen Britten chairs the committee made up  
12 of four members from the science department. We've been  
13 meeting for probably a year and a half to two years now,  
14 I guess, and it would have preceded the sub-committee  
15 that was set up to specifically deal with the EA.

16 THE CHAIRPERSON: Was there an overlap at  
17 all, Dr. Lewis?

18 DR. LEWIS: Pardon me?

19 THE CHAIRPERSON: Was there any overlap,  
20 anybody who was on both committees?

21 DR. LEWIS: The dean of science, Dr. Allen  
22 Britten, also played a role -- and appropriately, I  
23 believe -- in our committee.

24 THE CHAIRPERSON: Thank you. As we  
25 normally do, I will just, I think, get an indication from

1 you in terms of a show of hands as to who might have  
2 questions for Dr. Lewis. So, I'm asking first for people  
3 who are registered participants.

4 So, I see Dr. Argo, I see Dr. Ignasiak and  
5 I see Mr. Marman, I see Ms. Ouellette. I'd better write  
6 that down because I will -- and I'll ask you to -- maybe,  
7 you know, one question -- let's say two questions maximum  
8 for each person, please, and then I'll provide an  
9 opportunity for anybody else in the room who has a  
10 question for Dr. Lewis.

11 So, Dr. Argo?

12 --- QUESTIONED BY CAPE BRETON SAVE OUR HEALTH CARE  
13 COMMITTEE (DR. JAMES ARGO)

14 DR. ARGO: Thank you very much, Madam  
15 Chair. A very interesting presentation, Dr. Lewis. I  
16 appreciate the information you've given us, especially  
17 your attesting of that sonic technology. My question is  
18 two parts.

19 The first part, were you aware that the --  
20 or did your chemistry department review the fact that the  
21 incinerator would be allowed to release dioxins at a  
22 concentration of 80 picograms per cubic metre?

23 DR. LEWIS: I can't speak for our  
24 chemistry department.

25 DR. ARGO: Okay. That particular

1 concentration corresponds to one which is not protective  
2 of human health. Would that piece of knowledge change  
3 any considerations of the -- of your special committee's  
4 conclusion?

5 DR. LEWIS: Our committee is reporting  
6 findings of what we feel is one of the best experts in  
7 the country and we were assured by his report, or at  
8 least encouraged by his report. He suggested that the  
9 incineration technology proposed, if properly managed,  
10 can be safe. So, for us, that was reassuring.

11 As I say, I can't speak for our chemistry  
12 department.

13 DR. ARGO: I agree very much in your  
14 reassurance. Bill Grace and I were at Cambridge  
15 together. Thank you very much.

16 THE CHAIRPERSON: Thank you, Dr. Argo.  
17 Dr. Ignasiak?

18 --- QUESTIONED BY MR. LES IGNASIAK

19 MR. IGNASIAK: I have just a 10-second  
20 clarification. The sonic technology which you talked  
21 about has been approved about six weeks ago for  
22 commercial application in Ontario.

23 THE CHAIRPERSON: Were you aware of that,  
24 Dr. Lewis, or is that ---

25 DR. LEWIS: Yes, I was, and there is

1 information on -- I mean, there is a website particular  
2 to that -- specific to that company, but again we're not  
3 here to represent that commercial enterprise or to speak  
4 to its commercial application.

5 THE CHAIRPERSON: Okay. Thank you. We  
6 can't really ask you questions because we haven't seen  
7 the report. So, that's fine.

8 Mr. Marman?

9 --- QUESTIONED BY GRAND LAKE ROAD RESIDENTS

10 (MR. RON MARMAN)

11 MR. MARMAN: Thank you, Madam Chair.  
12 Through you to Dr. Lewis, we all read about the standing  
13 of our university in McLean's Magazine and how important  
14 it is to try to do well in that magazine, so I think, you  
15 know, public opinion is very important to the university.

16 Do you think a major problem with an  
17 incinerator so close to the university would have a  
18 negative impact on the university?

19 DR. LEWIS: Certainly one of the things  
20 that we discussed was perception and reality and  
21 perception can be an issue, because if people believe  
22 that something's not safe, whether it is or not, that can  
23 affect attitudes.

24 However, we've really tried to look at  
25 this as objectively as we can and say this is not about

1 perception, we want to -- let's try and look at the  
2 science, and that's what we did.

3 MR. MARMAN: We all agree, you know -- and  
4 I'm not trying to argue with you or anything, but we all  
5 agree that scientifically this incinerator can operate  
6 quite well, but right now that university is one of the  
7 major sources of employment in this area. I mean, it's  
8 probably one of our biggest sources of employment right  
9 now.

10 Do you think that just the announcement of  
11 an incinerator there, if you were thinking about coming  
12 to that particular university from other parts of Canada  
13 or whatever, you would maybe stop to think twice about  
14 it?

15 DR. LEWIS: I'm not really here to give a  
16 personal opinion. I can say that our university has been  
17 concerned about risks as well with not cleaning up the  
18 Tar Ponds. It has not helped our image across the  
19 country for the area to be seen as being the site of a  
20 toxic waste area and so on, so it's a double-edge sword.

21 We have certainly discussed the close  
22 proximity of the proposed incineration site. We feel we  
23 have also been negatively impacted by the reviews in the  
24 press and other places about our area in general being a  
25 contaminated one and I think, like many others, we are

1 anxious for the cleanup, for an appropriate technology to  
2 be chosen and the cleanup to go ahead.

3 MR. MARMAN: So, in your discussion there  
4 you obviously looked at an alternative to incineration,  
5 you've presented another alternative there.

6 DR. LEWIS: Um-hmm.

7 MR. MARMAN: Do you think that the  
8 university would be a lot better off public image wise if  
9 an alternative was used other than incineration?

10 DR. LEWIS: I really don't think I can  
11 comment on that. I don't think I have any evidence on  
12 which I could base an opinion at this time.

13 MR. MARMAN: Okay. Thank you very much.

14 THE CHAIRPERSON: Thank you, Mr. Marman.  
15 Ms. Ouellette?

16 MS. OUELLETTE: My question was answered.

17 THE CHAIRPERSON: Is there anybody else  
18 who is not a registered presenter in the room who has a  
19 question for Dr. Lewis? Somebody who is a registered --  
20 anyone else? No. Carry on, Ms. MacLellan [sic].

21 --- QUESTIONED BY CAPE BRETON SAVE OUR HEALTH COMMITTEE

22 (MS. MARY-RUTH MACLELLAN)

23 MS. MACLELLAN: I just have one short  
24 question. Did your committee look at the health impacts  
25 of using an incinerator?

1 DR. LEWIS: Our committee didn't  
2 directly -- our particular committee did not do a  
3 scientific test itself. Our committee looked at two  
4 examinations done by others.

5 We brought in the expert reviewer, and  
6 yes, he looked at -- our definition of safety for his  
7 purpose was based on whether it was in compliance, and  
8 yes, that was looking at established parameters of  
9 health.

10 MS. MACLELLAN: Was it a risk-based  
11 assessment that he used or a health-based assessment, and  
12 is there a copy of that available?

13 DR. LEWIS: There is a copy of the report  
14 available.

15 MS. MACLELLAN: The health assessment?

16 DR. LEWIS: I'm not sure that I can speak  
17 to whether it's a general assessment that looked at PCB  
18 destruction by incineration technology.

19 MS. MACLELLAN: So, in other words, you're  
20 not sure that it was a health assessment.

21 DR. LEWIS: A separate health assessment  
22 was not conducted.

23 MS. MACLELLAN: Thank you.

24 THE CHAIRPERSON: That document is -- it  
25 is on the public registry, and I think it was -- I've

1 even got the date in order to find it, I think it was  
2 filed on March 12th. So if you're looking for it, that's  
3 where it is.

4 THE CHAIRPERSON: Is there anybody else  
5 has a question for Dr. Lewis?

6 MR. POTTER: Madam Chair, if there's ---

7 THE CHAIRPERSON: Mr. Potter.

8 MR. POTTER: If there's no further  
9 questions, I feel there's one point of clarification we  
10 should respond to regarding Dr. Argo, and I'd ask Dr.  
11 Magee to address it. Thank you.

12 DR. MAGEE: Yes, I'd like to set the  
13 record straight that the Canada-wide standard for dioxins  
14 from incinerators is the most protective standard in the  
15 world. It is more health protective than the US EPA  
16 standard. It is more health protective than the standard  
17 used throughout Europe in the European Union.

18 We have performed a risk assessment on  
19 this standard, and in this location it is 100 to 50,000  
20 times lower in risk than the risk level that the Health  
21 Canada Agency requires that we meet.

22 THE CHAIRPERSON: Thank you, Dr. Magee.

23 Thank you very much, Dr. Lewis, for your  
24 presentation. We appreciate that, and we will look at  
25 the reports or the second report that you have filed.

1956

1                   We are ahead of time obviously for our  
2 next presentation, but if Dr. MacCormick is in the room,  
3 and would care to present now, we'll move ahead, and then  
4 we could end -- allow you to have an early evening. Dr.  
5 MacCormick? Alas, no.

6                   So I'm afraid -- I think what we will do  
7 is we'll adjourn for 40 minutes, I'm sorry, and then we  
8 will be back -- so at 20 to 7:00 we will -- that's not 40  
9 minutes. I think we'll adjourn for 30 minutes, and hope  
10 that Dr. MacCormick will be here by then. So we'll come  
11 back at 5 minutes to 7:00.

12                   --- RECESS AT 6:25 P.M.

13                   --- RESUME AT 6:58 P.M.

14                   THE CHAIRPERSON: Good evening, ladies and  
15 gentlemen, I'd like to get the session started again.

16                   I would like to welcome our second  
17 presenter of the evening, Dr. Ron MacCormick. Dr.  
18 MacCormick, are you -- do you have your presentation? Is  
19 the technology working for you? Okay.

20                   So we welcome you here for the hearings.  
21 You have 40 minutes for your presentation, and I will let  
22 you know 5 minutes before that time is up.

23                   --- PRESENTATION BY DR. RON MACCORMICK:

24                   DR. RON MACCORMICK: Okay. Thanks for  
25 having me here. My presentation, I'm talking about the

1 Sydney cancer history and what I feel the community is  
2 doing about it.

3 This is just a little background on  
4 myself. My parents are from industrial Cape Breton from  
5 Dominion and Glace Bay, and have had significant  
6 experience, as well, with cancer.

7 I moved back to Cape Breton, to downtown  
8 Sydney, in 1994. I'm a Medical Oncologist and my  
9 expertise is in the diagnosis, treatment and palliation  
10 of cancer.

11 It should be clear that I'm not an  
12 epidemiologist, nor a toxicologist, and my understanding  
13 of environmental issues remains as an amateur.

14 Now, looking at the background of the  
15 cancer story in Cape Breton, we really go back to the  
16 pre-1900s.

17 There was significant Highland Scot and  
18 other Celtic immigration, and why this is important is  
19 that Highland Scots have been associated with a potential  
20 genetic pre-disposition to cancer. The specific defect  
21 seems to be in an enzyme called glutathione  
22 S-transferase, and mutations of this enzyme, and groups  
23 of people with this enzyme mutation tend to have a bit of  
24 a difficulty handling the metabolism of certain  
25 hydrocarbons.

1                   So that's a background. From 1900 to 1988  
2                   there was significant air shed pollution, and when we  
3                   used to travel here as children, the evidence of this was  
4                   on people's morning washes and the windshields of their  
5                   cars.

6                   In the 1980s, in 1983, I believe, Yang Mao  
7                   looked at the cancer mortality in Cape Breton and  
8                   identified an increased cancer mortality in both men and  
9                   women. In men, the excess cancer rate was approximately  
10                  17 percent compared to the Canadian population, and in  
11                  women was 13 percent.

12                  Because of this excess mortality, the  
13                  province looked at some of the issues, and one researcher  
14                  was Pierre Lavigne, working for the Government of Nova  
15                  Scotia, who identified various poor lifestyle issues in  
16                  Cape Breton -- higher smoking rates, less physical  
17                  activity, higher obesity, and some dietary issues.

18                  From 1990 to the present, we have been  
19                  trying to come to grips with what the impact of the tar  
20                  ponds has been on our excess mortality.

21                  Now, the way I'm going to give this talk  
22                  is I'm going to talk basically about what I do. I do  
23                  cancer control, and I want to give you a background of  
24                  what Sydney has done about their cancer problem over the  
25                  last -- well actually, since Yang Mao.

1 Cancer control has various components to  
2 it, including the prevention of cancer, the early  
3 detection of cancer, treatment and palliation.

4 There's various resources needed to  
5 accomplish an adequate cancer control programme,  
6 including research, education, community involvement and  
7 funding at pretty well every level of cancer control.

8 When we look at what Sydney's situation  
9 has been since Yang Mao's report, and I'll start with  
10 prevention, some of the changes I'll bring up are --  
11 haven't particularly been planned changes but have been,  
12 in some ways, gratuitous.

13 From a preventive point of view, since  
14 Yang Mao, we no longer have coke ovens or a blast  
15 furnace, so because of that we have definite better air  
16 quality than we had prior to the closure of these two  
17 industrial sites.

18 There has definitely been lifestyle  
19 improvements in this city. Traditionally, smoking bylaws  
20 have only passed in affluent communities. In Canada,  
21 Cape Breton actually broke the trend that had occurred in  
22 the United States where we actually had Canada's first  
23 and most complete smoking bylaw. That bylaw was also  
24 supported by a fairly aggressive addiction support for  
25 smokers, which continues to this day.

1                   Cape Breton's gone through a change in the  
2                   last decade or two in the area of active living. We have  
3                   more green space, particularly with the areas behind  
4                   Sherwood Park Junior High School, and the hospital, as  
5                   well as the local running community, have initiated a  
6                   Fiddlers' Marathon.

7                   Just as an aside, I'm a runner, and when  
8                   we came to Sydney I don't remember seeing a lot of  
9                   runners on the street, and I don't know if the panellists  
10                  have noted it but we are a running community as well as a  
11                  walking community now, and that is, I believe, as well,  
12                  an improvement since the time of Yang Mao's paper.

13                  Looking at early detection in Cape Breton,  
14                  we've been behind the rest of the province in screening.  
15                  We've approached that by developing a mobile breast unit  
16                  through -- funded by the Provincial Government, and our  
17                  numbers for cervical screening have also gradually  
18                  improved. We're not up to the provincial standards, but  
19                  we're closer to them than at the time of Yang Mao's  
20                  report.

21                  Now, treatment is my area of interest  
22                  particularly. Since Yang Mao, we went from having no  
23                  cancer clinic, and really through -- the community  
24                  recognized this as a problem, and raised actually  
25                  privately -- despite our lack of corporate sponsorship,

1 the community raised close to \$8 million in private  
2 funding from coal miners and steel workers and the like  
3 in Sydney. That was almost unheard of in this -- in fund  
4 raising in an area with our economic situation.

5 With that capital, and with the support of  
6 the community more so than the support of the province,  
7 we developed a full service cancer unit, including a  
8 radiation unit that has 2 linear accelerators, a clinical  
9 trials unit, and we have full chemotherapy and biologic  
10 treatment. So, except for the treatment of acute  
11 leukaemia and some ovarian cancer, all patients are  
12 treated in Cape Breton.

13 We've developed outreach clinics  
14 throughout Cape Breton and, as well, we do outreach  
15 clinics to the mainland. Also, switching the trend  
16 that's been known in Nova Scotia of Halifax providing  
17 some outreach health care to Cape Breton, we're providing  
18 outreach health care to mainland Nova Scotia.

19 Over the last two years, our cancer clinic  
20 has ranked first in Canada in patient satisfaction  
21 surveys in every category. This is all because our  
22 community is incredibly supportive of this clinic, and it  
23 was really led -- I have to mention an individual by the  
24 name of Jean MacPhee as really the person who started,  
25 I'd say, the superior cancer service that's delivered

1 here. She may even be here tonight.

2 We have a very active palliative care  
3 service, which is the fourth pillar of cancer control.  
4 There's several physicians involved and numerous  
5 volunteers.

6 Now, in some of the supportive areas  
7 required for cancer control, from the research point of  
8 view, as I said, these weren't initiated necessarily in  
9 Cape Breton but we, I think, benefit from Yang Mao's  
10 report which identified excess cancer in men and women.

11 We have identified from Lavigne's report,  
12 and later I'll mention -- I'll allude to a report by  
13 Camus and Band as far as gradient of pollution within the  
14 city and its relationship to lung cancer in particular.

15 We have developed a clinical trials unit,  
16 which is basically a unit doing drug and hormone studies.

17 From an education point of view, the  
18 community has Nova Scotia's largest cancer symposium with  
19 300 delegates meeting here every fall. Our nursing staff  
20 has piloted cancer to Nova Scotia Oncology Teaching in  
21 Nova Scotia. We have a volunteer-supported cancer centre  
22 library.

23 And an interesting thing here, our clinic  
24 has noted that in Canada we've had a very rough time in  
25 recruiting radiation therapists. So, within our

1 community, every year since the creation of the clinic,  
2 we fund a local student to do radiation training, to the  
3 point where we have radiation therapists now from Glace  
4 Bay, Dominion, North Sydney, Leaches Creek in Sydney, and  
5 we're fully staffed from the radiation therapy point of  
6 view, which, from time to time, we're the only clinic in  
7 the country with that.

8 As far as community involvement goes, I  
9 mentioned that our community has raised significant  
10 dollars for a cancer clinic, and this has approached 8  
11 million. The clinic has supported the smoking bylaw and,  
12 in fact, as well as the community at large, the  
13 physicians pretty well supported that.

14 Our Run For The Cure for breast cancer has  
15 the most dollars per capita of any run of its type in  
16 Canada, and most of that is to the credit of the  
17 organizers, particularly Ann Kerr and Stewart Matheson.  
18 We have a similarly successful Relay of Life for the  
19 Cancer Society.

20 And another point I wanted to raise is  
21 that there is some psychosocial issues that -- there's  
22 mixed feelings with this. There's obvious satisfaction  
23 in the community of some of the accomplishments to date,  
24 but my sense of the community is that there is definite  
25 sense of fatigue in not answering our environmental

1 issues - once again, my opinion.

2 From a funding point of view, we have a  
3 substantial private funding in Cape Breton. Provincial  
4 funding, to me, seems to be a catch-up funding. As  
5 programmes are introduced and often funded in other  
6 jurisdictions, our province tends to follow along, I  
7 think not necessarily in a leadership way, but somewhat  
8 in a catch-up fashion.

9 Our funding issues will worsen. Cancer  
10 therapy is an extremely expensive endeavour and only  
11 getting more expensive. I think that if we have funding  
12 available for various endeavours right now, we have to  
13 use them before these funds are diverted elsewhere, and  
14 there will be pressure to do that, particularly within  
15 the cancer field.

16 Now, how has the tar ponds clean-up had an  
17 effect on cancer control in Sydney. Well, first of all,  
18 one thing I believe is that all of Sydney takes cancer  
19 control seriously. There is a strong belief that the tar  
20 ponds do contribute to cancer risk, and once again my  
21 opinion, but in regards to incineration, I'll expand on  
22 this, I do believe that this is unacceptable to the  
23 community.

24 I base that on a couple of points. One is  
25 that it is a visible reminder of coke oven and blast

1 furnace emissions, and it definitely does not improve  
2 quality -- air quality, and it is potentially hazardous  
3 if there are technological problems, especially with  
4 release of dioxins and furans. And this sounds a bit  
5 simple, perhaps, that I say it definitely does not  
6 improve air quality, but our cancer control issues or our  
7 cancer control efforts in this community have always been  
8 to improve things, not to maintain things, and that's why  
9 I think -- as I said, though, this is personal opinion.

10 Now, I'd like to expand just a bit on one  
11 of the Camus and Band studies. This was a -- I'm  
12 referring to a descriptive study where they looked at a  
13 measurement of ground deposition of particulate matter  
14 from 1959 to 1973 in Sydney. The deposition was highest  
15 in the Whitney Pier area, moderate in the Ashby area and  
16 lowest in Southwest Sydney, the Sydney River area. Just  
17 a few scenes to support what particulate deposition was  
18 like. This -- these are the scenes of the air around the  
19 Coke Ovens and steel mill prior to their closure and what  
20 we used to visit as children when we came to see  
21 relatives.

22 They're fairly self-explanatory. I  
23 believe this is on Victoria Road. The Camus and Band  
24 study showed that there was a significant increase in  
25 lung Cancer, mortality in the Whitney Pier area compared

1 to the reference area and this increase did correspond to  
2 measurement of particulate matter. This is interesting.  
3 It doesn't prove causality but I think somethings's very  
4 important in causality of Cancer. Cancer causality is so  
5 multi-factorial that there are almost no examples where  
6 it can be definitely proven. We've had perhaps with  
7 mesotheliomen exposure to asbestos and lung Cancer and  
8 exposure to cigarette smoke.

9 But although it occurs, absolute  
10 definitive proof is difficult. These are some of the  
11 numbers, SMR, so it would be standardized mortality rates  
12 for -- associated with -- for diseases associated with  
13 airborne pollution. This is the lung Cancer situation  
14 from the Band and Camus study. Now, you look in -- for  
15 men in the Whitney Pier area the expected -- well,  
16 relative risk of lung Cancer was 1.41 in men and 1.76 in  
17 women. So this -- that's a 41 percent excess of expected  
18 in men and a 76 percent excess to -- compared to expected  
19 in women. It's less marked. Excess in Ashby and the  
20 reference area is absolutely comparable to the national  
21 average.

22 Now, these are some of the limitations of  
23 this mortality study. It -- we -- Band and Camus did not  
24 have detailed information on individuals as regard to  
25 environmental and occupational exposure or various

1 lifestyle habits. They also didn't have a complete  
2 residential history in -- particularly in regards to the  
3 area and duration of residence. So those are  
4 shortcomings of the Band and Camus study.

5 Now this is -- these are personal  
6 observations again, but as I mentioned my input here will  
7 be particularly personal. I was at the American Society  
8 of Haematology meetings in 2005 in Atlanta. And my wife  
9 fortuitously during a jog came across a former inner city  
10 steel mill. It had been a site that was treated by  
11 encapsulation and at that time there was an on-house  
12 housing development which apparently had been quite a  
13 sought after housing development in Atlanta because it's  
14 -- of its proximity to the city core.

15 I'm living in Vancouver now and took a  
16 drive down to Tacoma where they have a multi-industry  
17 dumping site at the -- in the harbour in Tacoma. It's  
18 been treated as well and when we saw it there was  
19 evidence of marina development, University of Washington  
20 had moved one of their peripheral campuses to the site.  
21 There was a museum of glass. Now, I suppose this will  
22 have some relevance to what I'll say later because in the  
23 people who toured us through these T-sites, they're  
24 definitely was a sense of euphoria.

25 Now, I'll try to come back to that later.

1 And what I want to look at a bit is the psychosocial  
2 aspects of the cleanup. When I came to Cape Breton, I --  
3 in 1994, I was told I was coming to Canada's Cancer  
4 capital. A term I had heard when working in Halifax  
5 during the 80's. I crossed the Canso Causeway to make it  
6 to the island and I really had some trouble bringing a  
7 wife and family from British Columbia to Cape Breton and  
8 wondering if we had actually done the right thing.

9 The Tar Ponds are a continual reminder of  
10 our Cancer history. Now, what are some of the  
11 psychosocial effects of living near a toxic dump site? A  
12 study -- I'll refer to two studies. The first study I  
13 looked at was by -- a study that was by the ATSDR, the  
14 Agency For Toxic Substances and Disease Registry in  
15 cooperation with Emory University and the Connecticut  
16 Department of Health. The purpose of this study was to  
17 explore how communities and individuals respond socially  
18 and psychologically to hazardous substances and the  
19 possible effects on those responses on their health.

20 The assumption of the study was that  
21 health is an intertwined, inseparable entity made up of  
22 biological, psychological and social factors. And the  
23 areas studied were Superfund sites. The findings -- my  
24 summary of the findings were basically that the most  
25 difficult coping factors for people living near cleanup

1 sites was uncertainty of where the site was going and the  
2 uncertainty of their health and loss of control. The  
3 psychosocial response was individual based and it was  
4 pointed out that the individual is the expert on the  
5 psychological response. The individual goes through that  
6 psychic turmoil and can be the only expert for his or her  
7 individual experience.

8 Communities tend to split into factions.  
9 And I do -- I have had the sense over the last 12 years  
10 that Cape Breton may be suffering from some of the same  
11 splits. Stress exposure is cumulative. The longer  
12 people would live in that stressful situation, the worse  
13 the psychic and social impact. A second study done  
14 locally entitled the Tar Pond Kids, a Toxic Environment  
15 and Adolescent Well-being which I think the Panel may  
16 have heard about from Dr. Andrew Lynk, looked at two  
17 matched groups of adolescence.

18 Group 1 lived close to the Tar Ponds in  
19 the Whitney Pier area. And they were compared with a  
20 second group that lived at a distance in, I believe  
21 Sydney Mines. The results that -- in Group 1, the  
22 Whitney Pier group did express more depression and  
23 anxiety which they attributed to worries about residing  
24 near the Tar Ponds. Now, I had mentioned the  
25 psychosocial implications which -- a lot of times it's

1 very difficult to relate psychosocial changes to actual  
2 physical health. During the last year I've been studying  
3 the impact of aging by chemotherapy.

4 And during that, one of the main things  
5 we've seen with chemotherapy is that chemotherapy can --  
6 if -- I'll give you a little background on this, when a  
7 Cancer cell divides or any cell in our body divides we  
8 have to have replication of DNA. When DNA replicates to  
9 do that it has to essentially anchor via what's called a  
10 Telomere cap to the nuclear membrane. Every time a cell  
11 replicates that Telomere cap at the end of the --  
12 chromosi at the end of the DNA sequence will shorten.

13 When the Telomere shortens to the fact  
14 there will, you know, eventually be no Telomere cap those  
15 cells go through what's called apoptosis or natural cell  
16 death. It's why your hair turns grey when you -- the  
17 cells that make pigment for your hair die off. They tend  
18 to die off before the rest of our hair making cells.  
19 It's why our skin becomes wrinkled because the elastin  
20 producing cells tend to die off before the rest of the  
21 skin cells.

22 Aging is a very predictable thing and part  
23 of the aging sequence is based on shortened Telomeres but  
24 it's been work done by Peter Lansdorp at the British  
25 Columbia Cancer Agency where he -- they found the

1       Telomere shortening actually can be accelerated by  
2       stress. And the implication of this is that -- to me  
3       anyway, is that chronic community stress is not simply a  
4       quality of life issue but it also has implications on  
5       life expectancy. So stress is something that not only do  
6       we have to take seriously from how we enjoy life but how  
7       long we're going to enjoy life.

8                       Now, what do -- you know, once again I  
9       said personal opinion. What do I think the impact of a  
10      cleanup would be on Cancer control in Sydney? Well,  
11      looking at the four pillars of Cancer control. First  
12      looking at prevention. Without incineration we  
13      definitely won't be adding air shed pollutants. I would  
14      feel -- despite our good technology and whatnot, I would  
15      still have concerns over adding anything more polluting  
16      to our environment than we have to.

17                      I'm not an expert on solidification and  
18      well encapsulation but I do believe that it will disrupt  
19      the toxic pathway if monitored and maintained properly.  
20      I don't think the cleanup will have much of an impact on  
21      treatment, screening or palliation. But when you look at  
22      some of the other resources we need for Cancer control  
23      from a research point of view, certainly whatever cleanup  
24      is -- we proceed with we have to monitor the ongoing  
25      Cancer incidents, mortality and types of Cancer. So



1           that I wouldn't -- the competing interests are going to  
2           be profound. Our drug costs in this province are  
3           profound. We're not able to meet those drug needs.  
4           There's enormous competing interests and I really think  
5           these public funds could disappear if they're not  
6           utilized in the relative near future. Once again,  
7           opinion.

8                           I've got a few summary slides. One is  
9           that Sydney does have an increased Cancer burden. The  
10          causes are uncertain but the usual suspects are genetic  
11          predisposition, lifestyle and environment and I do  
12          believe the community is developing Cumulative Stress  
13          Syndrome. Potential action. I don't think there is a  
14          practical solution to a genetic predisposition except  
15          increased screening.

16                          It would be interesting down the road to  
17          -- one of our studies to look at would -- you know, would  
18          be to look at the glutathione esterase situation of  
19          people of Scottish -- Highland Scot descent. Lifestyle  
20          interventions are in place. I mean, we've had a change  
21          in the way we approach lifestyle. We've -- now you --  
22          smoking By-law is one thing, physical activity is another  
23          thing. Pop machines are out of schools. I think we  
24          started down this road of improving lifestyle and I don't  
25          see that we're going to turn back. I think I'd like to

1 see fewer cars being used in Sydney, another lifestyle  
2 intervention that certainly would improve air quality.

3 The environment is improving. The air  
4 quality improved because of the lack of industry. But to  
5 date we really haven't had movement on Tar Ponds and  
6 we're -- I'm certainly hoping we do in the near future.  
7 This ongoing environmental stress has to be addressed as  
8 soon as possible before the community gets more  
9 environmental fatigue and nihilism. My recommendations  
10 as someone interested in Cancer and controlling the  
11 community or that this project start as soon as possible.  
12 That we remove incineration as an option because I do  
13 think it will add to concern by the public and for good  
14 reason I believe.

15 I think we have to monitor -- what  
16 technology is used, I think we have to monitor the  
17 cleanup site for ever and prove that to the community  
18 that we'll do it. I think we have to couple cleanup  
19 efforts with ongoing improvements in Cancer control and  
20 the community really does have to be honestly informed as  
21 the project proceeds.

22 Now when -- you know, when we enter  
23 medicine, in the old days we used to have to sign a  
24 Hypocratic Oath but within that Oath but within that Oath  
25 the first law of therapeutics is Primum non nocere or --



1 our paediatric cancer incidents is the same as it is on  
2 the mainland. Interestingly, though, the population  
3 numbers are so small that if there were small  
4 differences, we wouldn't be able to detect them.

5 Now as far as looking at adults, if there  
6 -- you know, if, in fact, we're right, that there were  
7 environmental concerns until the late '80s and that we  
8 had lifestyle concerns and ongoing -- it would take about  
9 a minimum of 20 years to see any kind of benefit in that.  
10 So, we haven't got through the 20 years.

11 We've seen -- we're no longer 17 percent  
12 in men higher than the national average, but there hasn't  
13 been as complete a review as there was by Yang Mao since  
14 '83.

15 We have improved screening, as I  
16 mentioned, but to date, I can't tell you that we've seen  
17 a significant drop yet in cancer mortality.

18 THE CHAIRPERSON: Your comments relating  
19 to the psychosocial effects and the cumulative  
20 psychosocial effects, do you see those as possibly  
21 contributing to the cancer problem, or more to a more  
22 general kind of problem?

23 DR. MACCORMICK: Well, if you look at  
24 cancer biology, also within the setting of unstable  
25 telomere biology with telomere capping problems, there's

1 also rearrangement that -- of DNA issues at the time of  
2 the loss of telomere caps. That can be associated with  
3 early mutations as well.

4 Cells don't like to go through apoptosis  
5 or natural cell death, and they will do -- there is a  
6 higher incidence of carcinogenesis when telomere  
7 shortening exists.

8 THE CHAIRPERSON: Now, one of your earlier  
9 slides, first or second, I don't remember, you talked  
10 about some of the causative factors, a genetic  
11 predisposition, the operation of Coke Ovens, and -- but  
12 -- and then, I believe you said something about and the,  
13 you know, we've been trying to sort out the effects of  
14 the Tar Ponds themselves.

15 Well, I'm curious to know, you know, since  
16 the -- since access to the Tar Ponds was finally cut off  
17 with fencing and some of the other things were carried  
18 out, do you feel that in the current situation that the  
19 Tar Ponds are representing an actual -- a health risk,  
20 other than the psychosocial effect?

21 DR. MACCORMICK: Well remember, in  
22 psychosocial effect, there are biologic parallels, how  
23 this can, as I mentioned with telomere biology with ---

24 THE CHAIRPERSON: Oh, yes. No, no, I  
25 accept that.

1 DR. MACCORMICK: Okay. But as far as ---

2 THE CHAIRPERSON: I mean direct  
3 psychosocial effect.

4 DR. MACCORMICK: I can -- okay.

5 Logically, exposure to -- you know, the  
6 exposure that went on in my early days here, people did  
7 have exposure in basements to heavy metals, to various  
8 hydrocarbons that you can only think that from a logical  
9 point of view, that that would have had health  
10 detriments.

11 The unfortunate thing in cancer medicine,  
12 or any medicine, is the burden of proof. And with very  
13 small numbers, outside of anecdotal cases, you can't  
14 prove that there is -- I can only give you an opinion.

15 I think that with less exposure, there's  
16 going to be less problems, but I don't know if that's --  
17 if we have any proof of that occurring yet at all, you  
18 know. I hope it is, but we've got no proof of it.

19 THE CHAIRPERSON: Oh, yes. You had a  
20 slide up about -- with some observations about other  
21 cleanup areas.

22 DR. MACCORMICK: About what?

23 THE CHAIRPERSON: Other areas that have  
24 been cleaned up, other projects, other cities.

25 And you talked about the sense of euphoria

1 and excitement about what had been -- happened there.

2 So, I just wondered if you'd care to  
3 reflect on what role you think the actual future use of  
4 the Tar Ponds and Coke Oven sites -- I mean, how -- if it  
5 were, just for hypothesis. This -- I know this is not  
6 what the Agency intends, but if the sites were remediated  
7 and made safe, but no defined future use was found, they  
8 just became grassed areas, end of story, I mean, do you  
9 think that having a definite future use for community  
10 involvement is very important to the psychosocial  
11 improvement?

12 DR. MACCORMICK: Totally. Yeah. I think  
13 if you -- first of all, we -- I read an article on the  
14 flight here from Vancouver calling -- a phenomena called  
15 the Vancouverization of cities which, if we look at the  
16 development of cities prior to probably 1990, cities had  
17 been developed to spread out and to be developed farther  
18 from a central core with suburbarization, if that's a  
19 word.

20 Vancouver is -- their city development has  
21 been going on in the core of the city.

22 I don't think core development can happen  
23 in Sydney as long as the Tar Ponds are there.

24 So I think, No. 1, it could improve  
25 development of -- to increase of population within that

1 area, which I really don't think will happen until that  
2 occurs.

3 What happens when you have an increase in  
4 people in a community and you're living near a core as  
5 opposed to living at a distance? You have less use of  
6 internal combustion engines for transportation. You have  
7 greater access or closer access to health care, to  
8 shopping, to -- the whole quality of life could probably  
9 improve.

10 But, living within the core of the town  
11 and having less of a dependence on internal combustion  
12 engines, to me, is one of the first things that would  
13 happen. Sydney could start to build up again in Sydney,  
14 and not continue to spread away. And that's -- I really  
15 see that possibly happening.

16 THE CHAIRPERSON: Well, does that mean  
17 that if it were possible, you would like -- in fact, like  
18 to see a cleanup that would support some -- at least a  
19 certain measure of residential growth on that site? Or  
20 is that not critical?

21 DR. MACCORMICK: If -- are you talking  
22 about do I see a cleanup of houses bordering on the Tar  
23 Pond site?

24 THE CHAIRPERSON: No. No, let me open the  
25 question up and just say -- ask you what would you like

1 to see happen on that site?

2 DR. MACCORMICK: Well, once again, I'm not  
3 a technical expert on the soil in the area, but I think  
4 that anywhere where there are identified toxins within  
5 the soil where children are playing and gardens are, that  
6 I don't know of -- well, I don't think that there should  
7 be further development there.

8 I think you'd have to -- before I would  
9 push for development or encourage development of those  
10 sites, I'd want to see that the soil in the associated  
11 areas has improved.

12 THE CHAIRPERSON: Yes. Again, let's ---

13 DR. MACCORMICK: Sorry.

14 THE CHAIRPERSON: No. Let's assume that  
15 remediation has happened. I'm just asking you what your  
16 opinion -- what you would like -- what sort of future  
17 uses you would like to see happen?

18 DR. MACCORMICK: Oh, well, the site  
19 itself, I think, should be a greenbelt. I mean, I do  
20 think Sydney needs to continue in developing core  
21 greenbelts. And if the site were a greenbelt, I think we  
22 could look at more residential and business development  
23 around it.

24 But I don't know if I want a golf course  
25 or a park, whatever the thing is.

1           I think the city should have -- one thing  
2           would be transportation routes through it for bicycle  
3           routes. This community is -- does have a shortage of  
4           bike routes, walking routes. I think that's the type of  
5           development I'd like to see happen on the site itself.

6           But I really think residential development  
7           around it -- I mean, I live in a neighbourhood that  
8           borders relatively closely to the Tar Ponds, and I think  
9           it's a great place to live. And certainly, I think as  
10          this -- as the site gets cleaned up, it's -- it's a  
11          wonderful residential area, but it's got to be cleaned up  
12          first.

13                   THE CHAIRPERSON: Thank you very much.

14                   DR. LAPIERRE: Thank you very much for the  
15          presentation.

16           I'd just like to ask a question in  
17          relation to the proposed project. I guess it relates to  
18          your comment on the psychosocial factor.

19           And the question relates, if the Tar Pond  
20          cleanup was to cap the waste and leave it in the ground,  
21          how do you consider -- what impact do you think that  
22          would have on the psychosocial factor? Do you think it  
23          would remove it, with time? Or do you think people would  
24          still have a problem with the site capped and -- I guess  
25          what I'm asking is, would they have a degree of

1 confidence that the problem has been solved?

2 DR. MACCORMICK: At first, that option, I  
3 think, would be -- you know, have psychosocial  
4 implications itself. I think there would have to be a  
5 lot of proof to the community that certain things have  
6 happened.

7 I think we'd have to see that the water  
8 quality and the fish species in the harbour were  
9 improving, to prove to people that there -- it is,  
10 actually, separate from Sydney Harbour.

11 I think that there would have to be good  
12 ongoing monitoring, and the results made public  
13 regularly.

14 And, you know, at first I didn't think  
15 that you would get confidence. People would still worry  
16 about the beast in our midst.

17 That's not what I experienced in Tacoma  
18 and Atlanta, and I was a bit surprised by it.

19 There will be some. I don't think it will  
20 be the degree of this, that it is now. But I don't think  
21 it will be 100 -- would be 100 percent removed.

22 I think anybody who would have that  
23 certainty of technology looking after them would be  
24 wrong.

25 But certainly, it would be -- I think the

1 confidence in the community would be higher than it is  
2 now.

3 DR. LAPIERRE: My second question relates  
4 to one that you just alluded to, was how long -- in the  
5 communities that you visited, and the sites that you  
6 visited, where you noticed that sense of euphoria within  
7 the community, how long did it take the citizens to  
8 really get over their fear or ---

9 DR. MACCORMICK: The first visit to  
10 Atlanta was fortuitous. I was there studying  
11 haematology, and my wife got lost and ended up at the  
12 site.

13 And so, we were there with residents who  
14 had obviously bought into it. They'd bought into it  
15 because of its proximity with the city.

16 I don't -- I couldn't separate whether  
17 their euphoria was totally because they were in a nice  
18 housing development where they could -- to walk to  
19 downtown Atlanta, or if it -- but I still got the sense  
20 that they felt a sense of safety.

21 And if there was -- the euphoria sense, I  
22 found more in Atlanta -- or more in Tacoma.

23 I was with a project manager who was  
24 funded through the Super Fund. And there was -- as we  
25 were introduced to people from the University of

1 Washington campus site, from the glass museum, from the  
2 marina, every one of them was happy about it, but this is  
3 a selective population. There's -- these are people  
4 who've actually bought into that there's probable safety  
5 in these communities.

6 People that didn't buy into it, I  
7 obviously wasn't meeting, so I can't -- it -- so it's  
8 only an anecdotal observation.

9 And I don't know if I'd want you to put  
10 anything more into it than that, but -- because it is  
11 selecting people who have a greater sense of safety than  
12 perhaps that didn't, you know, buy condos in the area.

13 DR. LAPIERRE: How old were these  
14 remediation projects?

15 DR. MACCORMICK: Well, the Tacoma  
16 remediation's ongoing. The first -- it's -- I don't know  
17 how long it's going to take for the remediation to be  
18 done, but the first part of it was cleaning up a channel  
19 which was turned into a marina at -- in the university  
20 sites.

21 I think this looks like they -- from the  
22 maps I saw, it looked like the remediation was probably a  
23 third of the way through the area that had to be  
24 remediated.

25 The Atlanta one was complete, and I

1 believe the Atlanta one took about ten years. It's ---

2 DR. LAPIERRE: Thank you.

3 DR. MACCORMICK: It's called Atlanta  
4 Station, for future reference.

5 MR. CHARLES: Dr. MacCormick, the  
6 proponent has done a -- at least one, maybe a number of  
7 health risk assessments. And are you familiar with this  
8 kind of technique or modelling, or whatever you want to  
9 call it?

10 DR. MACCORMICK: I'm aware of it, but not  
11 expert in it.

12 MR. CHARLES: Have -- you're aware of it,  
13 and I guess I'm trying to get some sense of whether  
14 you're able to make any kind of a judgment about them in  
15 terms of their accuracy or reliability?

16 DR. MACCORMICK: I have major problems  
17 with risk modelling.

18 We've done -- we've had some major health  
19 problems in Canada through risk modelling. And so, at  
20 best, I'm sceptical.

21 I give you examples why I have problems  
22 with it, and I have to speak from what I have experience  
23 in.

24 In 1973, we were told that health care  
25 costs in Canada were directly attributed to the number of

1 beds that were in the system.

2 At that time, Saskatchewan was used as an  
3 example where we had 11 beds per 1,000 people. We were  
4 told that if we could drop it to 7 beds per 1,000 people,  
5 health care would go down.

6 At this time in Canada, we're between 2  
7 and 3 beds per 1,000 people, and health care has  
8 escalated -- or health care costs has escalated.

9 We were told in the early 1990s that  
10 health care was due -- health care costs were being  
11 driven by the number of medical students that were being  
12 trained to be doctors. We had a 25 percent drop in the  
13 number of students being trained in Canadian medical  
14 schools, based on modelling that was done by Baird and  
15 Stoddard.

16 Now we're in a human resource crisis in  
17 Canada, and health costs continue to escalate.

18 Those are two things that are affecting  
19 pretty well everybody's health in this community, and  
20 they were based on modelling.

21 I'm not a modelling fan.

22 MR. CHARLES: Okay. I'm looking at the  
23 proponent's response to your initial question about -- or  
24 your initial comment, I suppose, where you said:

25 "Cancer prevention, although there's no

1 good data to prove that incineration will  
2 lead to increased risk of carcinogenesis,  
3 there is also no certainty that it will  
4 not."

5 And in their response, the proponents  
6 referred to human health assessments that had been done,  
7 and referred to the farm toddler who eats all kinds of  
8 things on the farm in close proximity to the incinerator,  
9 as a sort of a worst case scenario. And it says, based  
10 on the model, that:

11 "The effect on the toddler from whatever  
12 comes out of the incinerator in  
13 unregulated moments would be over 1,000  
14 times lower than the project significance  
15 level, and is insignificant."

16 So, the risk to this toddler who is eating  
17 all the time is insignificant. The risk to average  
18 residents are much lower than this.

19 Now, I take it you don't get any comfort  
20 from that kind of conclusion, based on modelling?

21 DR. MACCORMICK: No. I don't.

22 MR. CHARLES: Okay. I just wanted to  
23 establish where you were, because we have heard other  
24 people suggest that there is an inevitable risk attached  
25 to anything that you do, and that with regard to

1 incineration, there will be some risk that it won't  
2 operate at maximum efficiency all the time, but that's a  
3 risk that you sort of have to take if you want to get  
4 things done in a particular way.

5 As far as you're concerned, no risk ---

6 DR. MACCORMICK: If we don't have to do  
7 something, even with only potential risk, why do it?

8 MR. CHARLES: So you're looking at  
9 alternatives to incineration, and saying there are other  
10 ways to do it?

11 DR. MACCORMICK: Oh, I think this project  
12 has to proceed. I think if I came here and delayed this  
13 project by a minute with any of my comments, I would be  
14 doing a huge disservice to this community.

15 But if there's alternatives to actually  
16 adding problems to our airshed, if there's -- that we  
17 don't have to do, if we have alternatives to that, I  
18 think we should use our alternatives to that. But only  
19 if -- not only -- I don't -- I really will not back down  
20 on my opposition to incineration, but I would back down  
21 to a significant delay in the project.

22 MR. CHARLES: Okay, I'm not asking you to  
23 back down.

24 DR. MACCORMICK: Yeah.

25 MR. CHARLES: But I will ask you one more

1 question.

2 You mentioned about the aging process and  
3 how hair turns grey?

4 DR. MACCORMICK: Yeah.

5 MR. CHARLES: What cause hair to disappear  
6 entirely?

7 DR. MACCORMICK: Your telomeres are really  
8 battling.

9 MR. CHARLES: I'm in bad shape, I know  
10 that.

11 THE CHAIRPERSON: Oh, before I invite  
12 questions from other participants, I made myself a note  
13 that in your presentation, you made reference to two  
14 studies. One study, I believe, was already referenced,  
15 and I believe we have it.

16 Your first -- I didn't mark down which one  
17 it was, but are you able to provide the Secretariat with  
18 the -- either the study itself ---

19 DR. MACCORMICK: I think this -- one study  
20 I think I read from your notes, you've already requested,  
21 the toxic kids.

22 THE CHAIRPERSON: Yes, that one, and ---

23 DR. MACCORMICK: And so, that's probably  
24 being provide by Andrew Lynk. What was -- which -- I  
25 referenced a few studies.

1 THE CHAIRPERSON: No, no. Not ---

2 DR. MACCORMICK: Not Dan ---

3 THE CHAIRPERSON: There was a second local  
4 study, I think, that you referenced.

5 DR. MACCORMICK: Peter Lansdorp, Stress  
6 and Telomere Biology?

7 THE CHAIRPERSON: It could be. If you  
8 referenced it, though, would you be able to provide  
9 whatever you had in your ---

10 DR. MACCORMICK: Yeah.

11 THE CHAIRPERSON: Yes. So we'll put that  
12 in the record as a -- I'm now -- I've been told I must be  
13 much more precise about doing this, but we will enter  
14 that in the record as an undertaking that Dr. MacCormick  
15 will provide us with the reference for the -- we'll ask  
16 you for the references for any studies that you  
17 referenced in your presentation. [u]

18 DR. MACCORMICK: Okay.

19 THE CHAIRPERSON: Thank you. I will turn  
20 first to the Tar Ponds Agency to see if they have any  
21 questions for you.

22 Mr. Potter?

23 --- QUESTIONED BY SYDNEY TAR PONDS AGENCY (MR. FRANK  
24 POTTER)

25 MR. POTTER: Thank you, Madam Chair, Dr.

1 MacCormick, Mr. Bailey. Maybe I'll just start first with  
2 your three conclusions, I guess, your wrapping up  
3 comments.

4 Start this project as soon as possible.  
5 We completely agree.

6 Respect your opposition to incineration.  
7 We understand that. There are numerous people in this  
8 community who do not want to see incineration here. We  
9 understand that. We've offered an alternative in the  
10 report to address that as part of a requirement of the  
11 guidelines.

12 And I think your final comment was -- your  
13 conclusion was in relation to monitoring forever.

14 Currently, right now, and we've had great  
15 discussion over this in the past number of days that, you  
16 know, we're talking, essentially, right now, to  
17 monitoring up until -- essentially 33 years from now  
18 we'll be monitoring. That's the commitment the  
19 government has made.

20 I think we're hearing clearly over and  
21 over again from various people that that commitment has  
22 to be extended, and I think that's an issue that will be  
23 addressed in the coming months, I suspect.

24 So, I just want to run through a few  
25 things in particular. I can't disagree with you when you

1 say that, you know, incineration doesn't improve air  
2 quality. I don't think anybody here is saying that.

3 We understand that the purpose of  
4 incineration is to take some of the contaminants that the  
5 community would like to see removed and destroyed, the  
6 PCBs, and incineration -- in the eyes of our Agency  
7 after, you know, a thorough examination of all the  
8 technologies, the most proven, most robust, most reliable  
9 approach to doing that would be incineration. That's  
10 certainly the project that we've been presenting to the  
11 Panel and defending.

12 I do have one question, Dr. MacCormick, on  
13 your slides. Somewhere early on you mentioned about, I  
14 think, the Band Camus Study, you mentioned that it  
15 doesn't prove causality. I think your slide said "does."  
16 There may have been a typo on that, but I just wanted to  
17 point that out for the record.

18 DR. MACCORMICK: You're right, it doesn't  
19 prove causality.

20 MR. POTTER: Yes. I think the slide said  
21 "does," so just, perhaps, for the record on that one.

22 DR. MACCORMICK: Okay.

23 MR. POTTER: We spent a lot of time on  
24 health studies. Dr. Magee is our chief toxicologist on  
25 our team. We've looked at all of the various studies

1 that have been done over a long period of time just to  
2 understand the baseline conditions existing, body burden,  
3 if you wish, of the community.

4 And I don't think I want to get into any  
5 great discussion about, you know, statistics and numbers,  
6 and, you know, perhaps it's something Dr. Magee and  
7 yourself can talk about afterwards. I think -- we think  
8 we have an understanding of, you know, where the issues  
9 are with that, especially the Band Camus Study, and like  
10 I say, perhaps Dr. Magee can discuss that one with you as  
11 well afterwards.

12 But I totally agree with you on the  
13 anxiety issue. I live in Sydney, Sydney is my hometown,  
14 I know a lot of people here. I see it. You know, I see  
15 the anxiety this project puts people through, and I don't  
16 think it helps people to endure the long-running saga of  
17 the Sydney Tar Ponds Project. It clearly is time -- as  
18 you say in your first conclusion, it's time to start this  
19 project.

20 I guess, parallel or against that setting  
21 of anxiety we've encountered so long in Sydney is the  
22 euphoria that you spoke about on other sites. We took  
23 people -- and we've discussed this briefly in previous  
24 presentations to the Panel -- we took a group of  
25 community people through to some sites in the US.

1                   Dr. Lynk came with us down to New Bedford  
2                   and I know you've got to the west coast site, and that  
3                   was -- something our group took from those visits was the  
4                   -- not just the technical aspects and, you know, how they  
5                   did it and what kind of pumps they used and how they  
6                   pushed it through pipelines and all those technical  
7                   matters, one of the things that really struck home for me  
8                   on the tour was the very different state of well-being in  
9                   the communities that we went to.

10                   They all had -- whether it was Seattle,  
11                   Tacoma, Fox River, New Bedford, Massachusetts, they all  
12                   had a different mindset. In Tacoma -- Seattle, I'm  
13                   sorry, the old GasWorks Site down there, you know, they  
14                   have a park there that that community is extremely proud  
15                   of, highly -- very highly used, extremely well utilized  
16                   by the community as a recreational -- passive  
17                   recreational land, famous for its kite-flying down there.  
18                   We went to Tacoma, still -- as you say, still being  
19                   remediated right now.

20                   And I will quickly move along, I've got  
21                   the message.

22                   But it was interesting to go to those  
23                   sites, because there was very much -- and the question, I  
24                   think, Dr. LaPierre asked about how quick did this  
25                   happen, the transition, the impression -- we asked the

1 same question.

2 The impression -- the answers we got was  
3 very quickly, within a year or two the people who were --  
4 some of the people were strongly opposed to the projects,  
5 they were there with us talking and proudly campaigning  
6 and supporting the projects that were now going ahead.  
7 It wasn't necessarily what they wanted at the time but it  
8 was a project that they accepted and were very proud to  
9 support and it made a big difference in those  
10 communities.

11 I appreciate your concerns or your  
12 feelings on modelling, risk modelling. You know, it's  
13 something that -- you know, we're required to follow  
14 certain rules, we follow all the standards that the --  
15 you know, the various government departments, Health  
16 Canada, provides for us in terms of how to model. We try  
17 to be overly conservative on that modelling. For the  
18 very reason that you have concerns about modelling, so do  
19 we.

20 All I can say, just wrapping up -- and  
21 we've stated this before and I'm going to do it very  
22 quickly -- we are committed to moving this project  
23 forward as soon as we can and recognizing your concern --  
24 and I think we have to -- we want to get to the point  
25 where those other communities were.

1                   We want the community supporting this  
2 project. We will be as open and as frank and as honest  
3 and hopefully creating as much trust as we can with our  
4 Agency on this cleanup as we've seen in other sites.  
5 Thank you.

6                   THE CHAIRPERSON: Well, thank you, Mr.  
7 Potter. I am going to give notice that I think in future  
8 I am going to encourage you, when asked the questions, to  
9 proceed with questions, and I do accept points of  
10 clarification, too, they're useful.

11                   So, you make it hard for me when I also  
12 ask for other people to ask questions and I try to insist  
13 that they ask questions. So, I think we'll try and do  
14 that in days to come. So, thank you.

15                   Now, I would like to invite questions from  
16 other participants, and as you know, we go -- I will ask  
17 for a show of hands from those people who are registered  
18 participants, I will take your questions first, but then  
19 I'm sure there may be some other people in the audience  
20 who have questions.

21                   I see Mr. Brophy, Mr. Marman, Ms.  
22 Ouellette, Ms. MacLellan and Dr. Ignasiak. So, we will  
23 -- I will go in that order. So, two questions maximum,  
24 please, if you don't mind.

25                   So, Mr. Brophy?

1 --- QUESTIONED BY MR. ERIC BROPHY

2 MR. BROPHY: Thank you very much, Madam  
3 Chair. And welcome home, Dr. MacCormick.

4 Many times over the past I encountered the  
5 expression "develop an immune system." Can you tell me  
6 at what age an individual's immune system is considered  
7 to be fully developed?

8 DR. MACCORMICK: Different parts of the  
9 immune system will develop at different times, but I  
10 think you can say it reaches its peak probably when your  
11 tonsils start to not become an issue. So, late teens  
12 would be a time when the immune system would probably be  
13 at its peak.

14 By that time it's gone through exposure to  
15 most things that it's going to have to fight off and then  
16 there's a gradual involution or diminishing of the immune  
17 system from then until old age.

18 MR. BROPHY: When I posed that question to  
19 Dr. Band (sp), he told me it would be the mid-20s.  
20 However, I accept your answer.

21 In the past you mentioned at one time you  
22 were keeping a map and that every time you identified a  
23 cancer case you indicated the location with a pin. Did  
24 you make any conclusions from that, and can you inform us  
25 what they were?

1 DR. MACCORMICK: I looked at cases that  
2 presented to our cancer clinic and I mapped those out and  
3 did show it to public health people, and the trouble was  
4 -- we're back to these numbers again and without being  
5 certain if, you know, having a collection of -- you know,  
6 I used red for -- red dots, and there was a collection of  
7 red dots.

8 Where I wasn't an epidemiologist, I was  
9 only interested in showing them to people who might be  
10 able to make any sense of them and all it came out to was  
11 an interest, and it's still an interest in my point, but  
12 my trouble with it is unless I have a bit more proof that  
13 -- there were areas not totally related to the Tar Ponds,  
14 too, that were at a distance and I didn't know what to  
15 make of them and I didn't know if -- I didn't think I had  
16 enough knowledge to go and pursue it further.

17 So, I turned over my concerns on a  
18 particular area in the region to our public health people  
19 and let them run with it. So, mine was more an interest,  
20 and I've got to tell you, a few things surprised me, you  
21 know, but ---

22 MR. BROPHY: Was there any one particular  
23 area or two or three areas that may have showed increased  
24 cancers?

25 DR. MACCORMICK: You know, I really can't

1 -- I don't feel it's right to answer that because of the  
2 -- I have no proof of my observations and the validity of  
3 them.

4 For instance, what if I came up with an  
5 area that had happened -- a bunch of MacDonalds from  
6 somewhere in Inverness in Scotland, their relatives all  
7 moved to one area and they had this excess of a mutated  
8 GST and I said there's one of my spots, and is that an  
9 environmental thing or is that a genetic thing or is it  
10 bad luck?

11 I had a call this week -- just to show you  
12 how these things work, I had a -- out in Vancouver I  
13 still get a lot of calls from Cape Breton, and this  
14 fellow called me -- and I can't use names, you know, it's  
15 this physician thing, but he called me and he told me  
16 about his brother who lives in another province who  
17 happens to have cancer of the pancreas, and then he  
18 started telling me about another one or two family  
19 members and then I told him that I was actually his  
20 second cousin and that my mother had died of cancer of  
21 the pancreas and we ended up -- we were related and we  
22 didn't even realize how tightly we were related and we  
23 found a cluster within our group of cancer of the  
24 pancreas.

25 Is that proof of an environmental cause of

1 cancer of the pancreas or that we're all related or  
2 whatever? I don't know. I'm concerned that, you know,  
3 I'm at risk of cancer of the pancreas right now.

4 But if I go and identify my areas of  
5 concern and I'm wrong, I may have done this community a  
6 disservice. So, I think I have to turn that over to  
7 experts, and I'm not one, Eric, you know, so ---

8 MR. BROPHY: No. Even though we turn it  
9 over at times in certain studies they're doing, if  
10 they're not followed up on we're not going to achieve the  
11 purpose of trying to, you know, come up with some answers  
12 and solve the problems in our midst. So, I thank you  
13 very much for your answer, doctor.

14 THE CHAIRPERSON: Thank you very much, Mr.  
15 Brophy. Mr. Marman? I can't read my writing.

16 --- QUESTIONED BY GRAND LAKE ROAD RESIDENTS

17 (MR. RON MARMAN)

18 MR. MARMAN: Thank you, Madam Chair. I  
19 really looked with interest on the slides that you show  
20 there with the stacks and the pollution coming out and  
21 the Coke Ovens with the pollution coming out.

22 I remember a time in this community where  
23 people would say, "Well, be glad, son, the smoke is  
24 coming out, people are working," and I think we've come a  
25 long way since then, we've changed our attitude about a

1 lot of things.

2 I'm very interested also, Dr. MacCormick,  
3 that you're the third medical doctor that has given a  
4 presentation here and all three medical doctors have said  
5 the same thing, that they are against incineration and  
6 some felt that in theory it could work but there were  
7 other things like psychological effects or whatever that  
8 they felt it was not the best thing for this community.

9 Do you think in general in this area the  
10 medical community feels that the incineration should not  
11 be a part of this project?

12 DR. MACCORMICK: Once again, informal  
13 polls, I haven't found a physician or a colleague that  
14 thinks incineration should be our cleanup project, but  
15 that's my own personal polling.

16 MR. MARMAN: Right. Well, it's quite  
17 interesting that the medical community feels that way. I  
18 think in general most physicians would agree that we'd  
19 rather not have it here.

20 You also stated that you had some concern  
21 about coming here because of the negative publicity about  
22 our community because of the Tar Ponds, and, you know, we  
23 all do agree that this project has to start and I think  
24 the whole community believes that this project has to  
25 start as soon as possible.

1                   But do you feel that if an incinerator is  
2                   established that perhaps whatever benefit we receive from  
3                   this project could probably be negated because an  
4                   incinerator is operating in this area?

5                   DR. MACCORMICK: Yeah, I agree with you.  
6                   I agree with you for a 10-year period or however long it  
7                   takes, and I'm not willing to accept that even if it's  
8                   only a perceived risk, which I think it still may be more  
9                   than a perceived risk. I wouldn't -- I would find that  
10                  totally unacceptable.

11                  MR. MARMAN: Thank you very much, doctor.

12                  THE CHAIRPERSON: Thank you, Mr. Marman.  
13                  Ms. Ouellette?

14                  --- QUESTIONED BY MS. DEBBIE OUELLETTE

15                  MS. OUELLETTE: Hi, doctor. I read an  
16                  article a few weeks ago that said Nova Scotia -- there's  
17                  about seven people that die a day. Could you say that  
18                  number would be the same thing in Cape Breton?

19                  DR. MACCORMICK: That seven people die of  
20                  cancer a day?

21                  MS. OUELLETTE: Per day.

22                  DR. MACCORMICK: Not per day.

23                  MS. OUELLETTE: Per day.

24                  DR. MACCORMICK: Seven in the province?

25                  MS. OUELLETTE: Yes.

1 DR. MACCORMICK: So, we would be part of  
2 those provincial figures, so our number would be lower  
3 than seven.

4 MS. OUELLETTE: Your number would be lower  
5 than seven? Because I saw -- like I did a little  
6 homework myself.

7 I mentioned this before, that last year I  
8 took the Cape -- just the Cape Breton Post alone, and per  
9 day I took who had cancer and who died of heart, and in  
10 three months the numbers were just off the roof that I  
11 had to put the study down, I was too upset.

12 So, I'm just wondering how many cancer  
13 patients do you see a day that are coming in and saying  
14 they have cancer.

15 DR. MACCORMICK: Well, I'll give you an  
16 example. We have -- I've been here for 12 years. I've  
17 seen more cancer patients than any other single  
18 oncologist in Canada. Numbers are going down a little  
19 bit now because I've got more help.

20 A normal Monday in my cancer clinic will  
21 be 30 patients who I see, plus we have other physicians  
22 seeing -- doctors. We have an extremely busy cancer load  
23 here. That's why we came to Cape Breton.

24 MS. OUELLETTE: Um-hmm.

25 DR. MACCORMICK: You know, people often

1 asked us why didn't we go to Vancouver or Toronto, and it  
2 was kind of like the Willie Loman story. You know,  
3 Willie Loman was the bank robber. Well, you go -- bank  
4 robbers rob banks because that's where the money is.

5 MS. OUELLETTE: Um-hmm.

6 DR. MACCORMICK: Doctors who are trained  
7 to treat cancer go where the cancer is. The cancer is in  
8 Cape Breton, and maybe it's only slightly higher than the  
9 rest of Canada or 13 percent or 17, but if it's higher  
10 we've got to continue to be vigilant and try to get rid  
11 of these obituaries that I read every day.

12 I had the Cape Breton Post sent to me  
13 every Saturday to get an idea of what was going on, and  
14 you read them, I know them.

15 MS. OUELLETTE: Yes.

16 DR. MACCORMICK: And it's a terrible  
17 situation. Now, I don't think it's three times the rate  
18 in Canada, I don't think twice the rate, but the fact  
19 that it's -- even if it's 10 percent higher than the  
20 Canadian average, that's too high.

21 MS. OUELLETTE: Yes. I mean, I know of a  
22 little girl right now, she just turned three, and, I  
23 mean, she's got two years of trying to get rid of her  
24 cancer. I mean, you cannot blame a lifestyle to that  
25 child. She didn't drink, she didn't take drugs yet, she

1 didn't have unprotected sex.

2 I mean, I eat a lot of organic food, I  
3 really try -- it's very expensive to buy, and I don't  
4 drink and I don't smoke, but you know what I mean, like  
5 when they relate lifestyle to the -- they don't compare  
6 the toxins that we have here, because we smell them every  
7 day, we taste them every day, we eat them every day, just  
8 by walking around the Tar Ponds and the Coke Ovens Sites.

9 So, you know, like I wish sometime that  
10 somebody would relate the toxins to what we live here,  
11 because we do have three toxic sites in the middle of our  
12 city, and that's a concern to many of us and it is  
13 stressful.

14 I mean, every day of my life the Tar Ponds  
15 and Coke Ovens are on my mind, because I live next to  
16 them. I mean, if I had a choice I'd go back to Margaree  
17 tomorrow, but work is work. You know, you've got to  
18 work.

19 But my other concern, too, is have you  
20 ever done any studies on animals that have cancer? Like  
21 we had eight dogs that have died of cancer in three  
22 years. Like have you ever done anything like that?

23 DR. MACCORMICK: I haven't done anything  
24 like that. I have these anecdotes. My wife is an  
25 addictions person and she's been talking -- she's

1 involved with smoking, right? But the number of pets  
2 that have died of lung cancer -- she's my source. I'm  
3 not a veterinarian so I can't tell you.

4 Do you know anything about that? I'm  
5 willing for anybody else to answer that. I would be --  
6 you know, I like that question.

7 MS. OUELLETTE: Thank you.

8 DR. MACCORMICK: That would be -- dogs  
9 have more exposure to the earth and whatever and ---

10 MS. OUELLETTE: And where they live.

11 DR. MACCORMICK: --- that's an excellent  
12 question. You know, maybe we should look at an animal  
13 study and -- has the panel invited any veterinarians to  
14 present here?

15 THE CHAIRPERSON: Never crossed our minds.

16 DR. MACCORMICK: I agree. I think that's  
17 -- I never thought of this but that's an excellent idea.

18 MS. OUELLETTE: Well, I can guarantee you,  
19 doctor, if you did a study just around the Coke Ovens  
20 Site you would be surprised how many people till today,  
21 that their animals died of cancer, and it's such a -- I  
22 mean, I only lived on Frederick Street for 20 years.

23 Eight dogs died in three years. We didn't  
24 put it together. I mean, there was deformed mice that  
25 came back, there was deformed fish that came back. But

1 really when you lose your dog to cancer because she grew  
2 a tumour on her face and you have to put her to sleep,  
3 you have to question what's -- not only it affects us, it  
4 affects them. So, the pollution must be doing something  
5 to them.

6 You know, I mean, we have dogs that are  
7 not living no more than six years. Why? And they're  
8 dying of cancer.

9 DR. MACCORMICK: And then dogs would be  
10 quicker to study. I mean, dogs have a shorter life  
11 expectancy and ---

12 MS. OUELLETTE: And I can guarantee you my  
13 dogs don't eat off the cheapo. They eat the best foods  
14 that come from the vet. There's no garbage that goes in  
15 their mouths. So, that, you know, when they say  
16 lifestyle for them, it's -- you know, it's heartbreaking.

17 So, it would be nice if somebody could do  
18 a study like that. I'd really be interested in that as  
19 well. I really thank you for listening to me.

20 DR. MACCORMICK: Yeah. Thank you. A good  
21 idea.

22 THE CHAIRPERSON: Thank you very much, Ms.  
23 Ouellette. Ms. MacLellan?

24 --- QUESTIONED BY CAPE BRETON SAVE OUR HEALTH COMMITTEE

25 (MS. MARY-RUTH MACLELLAN)

1 MS. MACLELLAN: Thank you, Madam Chair.  
2 Good to see you, Dr. MacCormick, you look rather well  
3 rested.

4 This is going to be difficult for me,  
5 because I haven't seen you since before my mum passed  
6 away, and my brother passed away less than two weeks  
7 after she did, and that left me with nobody except my  
8 husband and children. I have no immediate family left.

9 People who carry a heavy body burden of  
10 dioxins, if they're re-exposed, how harmful is that for  
11 the cancer events?

12 DR. MACCORMICK: Well, I certainly can't  
13 think that it would be good for the cancer event, being  
14 one of the major carcinogens. Is your question, Mary-  
15 Ruth, whether or not it will reactivate cancers?

16 MS. MACLELLAN: Yeah. Like if you have a  
17 weakened immune system or a heavy body burden, say, of  
18 dioxins that came out of the smoke stacks at the steel  
19 plant and also at the incinerator when it burnt the  
20 biomedical waste, your body burden, after a period of  
21 time, starts to lessen. But if your immune system is  
22 weakened from it, and you're re-exposed, don't you think  
23 this would have an effect?

24 DR. MACCORMICK: It makes sense. I mean,  
25 dioxins -- one problem with dioxins is that they're fat

1 soluble, they're very slow to get rid of, and to -- you  
2 know, if there's -- every disease, every exposure has a  
3 threshold level. So if you're re-exposed, if there is a  
4 definite threshold level, you should -- theoretically you  
5 wouldn't need as much dioxin the next time around to get  
6 over that threshold level. But I think that would be  
7 more for -- I don't know about reactivation of current  
8 tumours but for definite new tumours I'd say that would  
9 make some sense because -- you will always carry a bit of  
10 a body burden of dioxins, so it would only make sense  
11 what you're saying, although we have a toxicologist here  
12 probably can answer that.

13 MS. MACLELLAN: You mentioned the health  
14 care costs. If people are re-exposed, if they accumulate  
15 more cancer, it will have a drastic effect on the health  
16 care costs, correct?

17 DR. MACCORMICK: I was saying this to my  
18 colleague here today, we were discussing this, if we had  
19 -- I was looking at the cost of treatment of one woman  
20 with breast cancer, and I worked it out between the time  
21 of seeing the family doctor, mammography, biopsy,  
22 referral to a surgeon, radiation therapy, chemotherapy,  
23 follow-up visits, that I think you would work it out that  
24 you'd probably be approaching \$100,000 per case, not an  
25 insignificant amount. So if you can prevent a case or a

1 dozen cases or 100 cases, sure, it would definitely make  
2 sense that you would decrease health costs.

3 MS. MACLELLAN: Has a study ever been done  
4 of the people who are from Cape Breton who die elsewhere  
5 of cancer, do you know? They're not ever figured into  
6 our statistics, are they?

7 DR. MACCORMICK: We do see -- now this is  
8 something that -- this is an interesting point that comes  
9 up. I'm always interested in how Cape Bretoners live,  
10 having looked after a dozen -- you know, Cape Bretoners  
11 for a dozen years. It's my impression that Cape  
12 Bretoners do come home. We've got a big supportive group  
13 here. There would be some Cape Bretoners that obviously  
14 go away, too, when they get a terminal illness.

15 Since I've come here, on a regular basis  
16 we do have patients who come home from out west or  
17 Ontario because of the strong support groups here. So  
18 whether -- I've never seen a study that said what's the  
19 biggest flow, in or out, during that period of time. My  
20 impression would be that the flow would be bigger coming  
21 into Cape Breton, but I don't know if I have ever seen a  
22 study that would support that or refute that.

23 MS. MACLELLAN: Do you know if Hamilton,  
24 who has a huge steel industry, has ever had a cancer  
25 study?

1 DR. MACCORMICK: I don't know that.

2 MS. MACLELLAN: Okay. One more, last  
3 question.

4 DR. MACCORMICK: I would imagine Hamilton  
5 did.

6 MS. MACLELLAN: This is going to be a  
7 loaded one, though.

8 When my brother was dying, before he  
9 couldn't speak he asked me if I would leave the Island.  
10 I said "No, somebody has to take back the control of our  
11 Island, and if I have to try and get everybody across the  
12 province or across the Island to do it, I will." I was  
13 up in the northwest part of the Island on Sunday, talking  
14 to somebody about some stuff. But I promised him if they  
15 ever incinerated I would think strongly about leaving the  
16 Island.

17 Where does that leave you, would you stay  
18 on this Island with your children if they incinerated?

19 DR. MACCORMICK: Well, I guess I wouldn't  
20 give you answers that breach patient confidentiality, but  
21 I'll answer that. It is a loaded question, Mary-Ruth,  
22 and I'm in a family that I support my family members.

23 My wife has made this -- has expressed  
24 this same view to me, and if my wife leaves the Island, I  
25 leave the Island. But I'm quite confident we're not

1 going to see incineration.

2 MS. MACLELLAN: Well, I hope to God we  
3 don't, because I don't want to lose you out of Cape  
4 Breton. Thank you.

5 THE CHAIRPERSON: Dr. Ignasiak.

6 --- QUESTIONED BY DR. LES IGNASIAK:

7 DR. IGNASIAK: In 1994, the United States  
8 Oakridge National Laboratories completed the most in  
9 depth studies on the effectiveness of  
10 solidification/stabilization for treating organic  
11 contaminants.

12 I wonder whether you, Dr. MacCormick, or  
13 perhaps anybody in the auditorium, heard anything about  
14 these studies?

15 DR. MACCORMICK: About the Oakridge  
16 studies?

17 DR. IGNASIAK: Yes.

18 DR. MACCORMICK: No. Do you have any ---

19 DR. IGNASIAK: Well, perhaps I just tell  
20 you the key thing. There's a tremendous number of  
21 conclusions, but the first conclusion is that the  
22 solidification/stabilization technologies are generally  
23 not appropriate to treat organic bearing waste [--].

24 The fourth conclusion of the studies,  
25 because that was the first, is very little scientific

1 literature claims that S/S is effective for treating  
2 organic waste stuffs.

3 DR. MACCORMICK: Can I ask you a question  
4 back? Just I'm not ---

5 THE CHAIRPERSON: Is there a question in  
6 there, Dr. Ignasiak, do you actually have a question?

7 DR. IGNASIAK: Actually, I asked the  
8 question before whether Dr. MacCormick ---

9 THE CHAIRPERSON: You just wanted to know  
10 if Dr. MacCormick knew about the studies.

11 DR. IGNASIAK: Yes.

12 THE CHAIRPERSON: Did you have a comment  
13 on that?

14 DR. MACCORMICK: I don't know about the  
15 study, so I can't have comments, and I'm not a technical  
16 expert, as is obvious, I'm sure, on environmental clean-  
17 up projects, but my question is, because I think you seem  
18 to know the literature better than the rest of us, has  
19 the technology changed since '94?

20 DR. IGNASIAK: Well, I don't think that  
21 the technology actually has changed during the last 15  
22 years. Actually, it is applied less now than it was 15  
23 years ago.

24 DR. MACCORMICK: Because the way that I've  
25 looked at S&S, which is basically look at avoiding

1 exposure of the public to the contaminates, that's why  
2 I'm asking you if you know of any changes since this '94  
3 study, or if the toxicologists or the panel know if  
4 there's -- what's happened with S&S in the last 16 years  
5 now. Because if I ask the question, I'd be interested in  
6 it, as well.

7 DR. IGNASIAK: Well, I perhaps leave with  
8 you this information and perhaps you can really look at  
9 it.

10 DR. MACCORMICK: Thank you, Dr. Ignasiak.

11 THE CHAIRPERSON: Is this information that  
12 we have, Dr. Ignasiak? All right. Thank you.

13 Is there anybody else who is not a  
14 registered participant who has a question for Dr.  
15 MacCormick? Well, Dr. Argo and then Ms. Hearne and Ms.  
16 MacQueen.

17 So I will take Ms. Hearne first.

18 --- QUESTIONED BY CAPE BRETON SAVE OUR HEALTH COMMITTEE

19 (MS. ADA HEARNE)

20 MS. HEARNE: Thank you. Hi, Dr.  
21 MacCormick.

22 I just wanted to actually say that I have  
23 the utmost respect for you, and because of you my mother  
24 is still with me, which is great.

25 My family has also pondered the facts that

1 if incineration comes that we might, after being here  
2 since the 40s, pack it in and head somewhere else, as  
3 well. We're very frightened by the thought of  
4 incineration. And I look at these guys over here that  
5 want incineration, and then I look at you and say "If  
6 they get their wish, people here had better pray to God  
7 that you're here to take care of us when they get  
8 bombarded with cancer."

9 DR. MACCORMICK: Yeah, in fairness, the  
10 problem was totally worse when we had industrial  
11 pollutants, and my whole thing is I'm being a purist  
12 about what we put into the air, you know, and I think we  
13 should all be purist, every time we make a decision to  
14 turn the ignition in our car.

15 MS. HEARNE: Okay.

16 DR. MACCORMICK: So it's not just the  
17 stack, but I don't think we should do anything that's not  
18 necessary to ---

19 MS. HEARNE: Absolutely. Absolutely. And  
20 I'm just grateful that you're here for all the people who  
21 suffered from the past, and hope that there's no  
22 suffering in the future. Thanks a lot.

23 DR. MACCORMICK: Thank you.

24 THE CHAIRPERSON: Thank you, Ms. Hearne.

25 Dr. Argo.

1 --- QUESTIONED BY CAPE BRETON SAVE OUR HEALTH COMMITTEE

2 (DR. JAMES ARGO)

3 DR. ARGO: Thank you very much, Madam  
4 Chair. I appreciate you letting me get in.

5 Dr. MacCormick, I was delighted to meet  
6 you, delighted to see your report. There was one point  
7 in your report where you were saying that there is a  
8 problem following the cases. I may be wrong. You were  
9 talking about the epidemiologies, being able to know  
10 where a person has lived, what they have eaten, do you  
11 remember?

12 DR. MACCORMICK: Yes, I do, from the Band  
13 and Camus report.

14 DR. ARGO: That's right. Just about the  
15 time that they were preparing their report, I was working  
16 with Yang Mao in Ottawa after he had finished his report  
17 here. And the system that he asked me to build was  
18 called the Enhanced Cancer Surveillance, and it's capable  
19 of doing -- it has 20,000 cases of 18 different sites,  
20 150,000 references and 5,000 controls, which follows  
21 lifetime exposure.

22 Now, so we follow -- we can follow the  
23 lifetime -- where a person has lived for all of their  
24 life, residences.

25 In the cases of Sydney, when I used that

1 system to do a preliminary study here, I found that we  
2 had identified about 80 percent of the cases that were  
3 identified in this CD in 1993-5. So the system is very  
4 good.

5 My question would be, it's coming in just  
6 a second, I have used it to study the early exposure,  
7 because I'm following -- I'm interested in work that has  
8 been produced by a Professor Filly from MIT, and he has  
9 identified that early exposure, less than, say, age 30,  
10 is more likely to produce an early cancer than late  
11 exposure is to produce a late cancer.

12 I'm finding that the risk for breast  
13 cancer in early exposure is about twice the risk of  
14 breast cancer in later exposure.

15 DR. MACCORMICK: Totally correct. I think  
16 you can, in fact, extrapolate in utero exposure has been  
17 associated with a higher risk of adult onset breast  
18 cancer.

19 So carcinogenesis for some tumours will  
20 take 20-30-40 years, and exposure at the early stage,  
21 which I agree with you -- in fact, that's one of the  
22 reasons why we have to be so prudent with pregnant women.

23 DR. ARGO: Exactly. What I'm finding --  
24 what I think we're finding now, in terms of the cancers  
25 that are appearing so routinely that Debbie talked about,

1 I think a lot of them, especially those people under,  
2 say, 50, are probably people who were exposed at the tail  
3 end of the industrial period. Would you agree?

4 DR. MACCORMICK: Word that last question  
5 again, how ---

6 DR. ARGO: Well, I'm thinking that if it's  
7 taking some -- if there's a latency of some 40 years,  
8 then the cancers that we're seeing today are cancers that  
9 -- are people who were exposed to the operations of the  
10 mill.

11 DR. MACCORMICK: Totally makes sense. I  
12 mean, we're only 18 years out.

13 DR. ARGO: That's right.

14 DR. MACCORMICK: We're still in -- we  
15 probably haven't hit peak incidents yet from that  
16 exposure.

17 DR. ARGO: Perfect. Thank you very much.

18 THE CHAIRPERSON: Thank you, Dr. Argo.

19 Ms. MacQueen.

20 --- QUESTIONED BY MS. NEILA MACQUEEN:

21 MS. MACQUEEN: Good evening, Madam Chair,  
22 panel, and ladies and gentlemen. Thank you, Dr.  
23 MacCormick for your presentation.

24 I have -- I totally agree with you  
25 concerning stress, because where I live so close to the

1 tar ponds, in the 52 years I've worked in there and there  
2 has never been anything done to it.

3 Also, there has been a large fence erected  
4 around it, and with signs on it "Human health hazard."  
5 And periodically I look out my window and I see people  
6 working there in behind the fence, and they have  
7 protective gear on. Also, they have been inoculated for  
8 many diseases. And here I am, just on the other side of  
9 the fence with no protective gear on, and no inoculation  
10 -- no needles. Anyway, this was a big part of my stress.

11 Also, during the remediation of soil down  
12 on the north end and the Coke Ovens and elsewhere, there  
13 was one house only remediated on Intercolonial Street.  
14 What made us feel like -- because my soil test came back  
15 highly contaminated, and my question is to you, where  
16 there are so many contaminants in the tar ponds, through  
17 groundwater and permeable soil, is there a good chance  
18 that there are contaminants in my basement from the tar  
19 ponds?

20 DR. MACCORMICK: Well, you've just given  
21 the answer. You said you had your soil tested and it was  
22 -- I'm assuming for heavy metals such as arsenic and ---

23 MS. MACQUEEN: Yes, and it came back very  
24 high.

25 DR. MACCORMICK: Well, you've given the

1 answer.

2 MS. MACQUEEN: Okay. Thank you, doctor.

3 Now, you had mentioned in the 1900s about  
4 the people, do you know the population at that time?

5 DR. MACCORMICK: No, I don't, but I'm  
6 going to assume that the population was significantly  
7 less. I think the population -- two things happened in  
8 the late 1800s. There was -- when the steel plant  
9 opened, there was a mass rural migration from rural Cape  
10 Breton to Sydney, and around the same -- not long after  
11 that, when we -- the sheep farming industry, that pretty  
12 well went under with refrigerated ships. So that also  
13 urbanized part of Sydney. And then there was the  
14 immigrant population that had come from the West Indies  
15 and the Middle East.

16 MS. MACQUEEN: Yes.

17 DR. MACCORMICK: So I would guess, now  
18 this is a guess, maybe I have some other experts here,  
19 but I'm thinking the population would have been, at most,  
20 a quarter of what it would have peaked at in the early  
21 80s or late 70s.

22 MS. MACQUEEN: Yes.

23 DR. MACCORMICK: I'm just guessing, you  
24 know.

25 MS. MACQUEEN: Well, Donnie DeLeskie gave

1 a presentation on Saturday, and he said there were 6  
2 people in a whole year died of cancer. So anyway, right  
3 now, it's about 6 people every week. But anyway, you  
4 know more about that than I do.

5 Another thing I'm really worried about is  
6 ---

7 DR. MACCORMICK: Do you remember just in  
8 -- you know, I'm not -- I'm your advocate for cancer, but  
9 I worked in other countries where we had less diagnostic  
10 facilities. I worked in Africa and I worked in Central  
11 America, and remember the big disease killer at the turn  
12 of the century in 1900? What was it?

13 MS. MACQUEEN: Tuberculosis?

14 DR. MACCORMICK: Tuberculosis.

15 Tuberculosis also called consumption, which cancer  
16 mimics. Consumption was a weight-losing proposition with  
17 a lot of cough and whatnot. A lot of malignancies are  
18 the same. So there were probably more than 6 cancers.

19 MS. MACQUEEN: Yes. I am a cancer  
20 survivor. I've had lung cancer. I've never smoked a  
21 cigarette in my life. And I asked the doctor "Did I get  
22 lung cancer from secondhand smoke?" He said "No, Neila,  
23 not where you have it."

24 About three weeks ago I went to see my  
25 doctor, and he said "You know what, Neila, cancer is an

1 epidemic around here. I diagnosed 3 ladies this week  
2 with breast cancer." So, as you can see, we have a lot  
3 to worry about here, and especially with this incinerator  
4 coming on stream.

5 Now, I had a teacher, a computer teacher,  
6 and she had to take her little boy to the IWK with the  
7 Hodgkin's disease. Anyway, there was another couple  
8 there, and the little fellow had something wrong with  
9 him, as well. And he said to the little fellow, "What is  
10 the Hodgkin's disease?" He didn't even know it, and his  
11 mother and father never heard of it, but yet my teacher's  
12 son knew three little boys with the Hodgkin's disease.

13 Now my animals, well, I have a cat that  
14 died only two years old with kidney disease, and my dog  
15 has a tumour on him the size of a watermelon, and my  
16 other little dog has two little growths on him, and, like  
17 I said, we have a lot of stress, as you can understand.

18 Now, this is -- I read this recently, in  
19 June 1970, the British Medical Journal Lancet, L-A-N-C-E-  
20 T, stated in an editorial that the weight of evidence now  
21 suggested that environmental factors as opposed to  
22 genetic ones were primarily responsible for perhaps as  
23 much as 70/80 percent of human cancers, an assessment  
24 which, in the United States, rapidly gained currency.

25 So I really don't think that I did inherit

1 my cancer genetically, and I'd like to thank you for  
2 coming to Sydney and helping us people out, and we need a  
3 lot more of you. Thank you.

4 DR. MACCORMICK: Thanks.

5 THE CHAIRPERSON: Thank you very much, Ms.  
6 MacQueen.

7 I think that concludes our questioning.  
8 So I would like to thank you again, Dr. MacCormick for  
9 coming, your presentation, answering our questions,  
10 answering questions from other participants, very  
11 valuable.

12 So that ends this evening. We will resume  
13 tomorrow, on Thursday. We will be meeting at 1:15 in the  
14 afternoon, and we will have a presentation from Mr. Bernd  
15 Christmas, of Membertou First Nations.

16 Following that, we will have a  
17 presentation by Sydney Tar Ponds Agency on -- follow-up  
18 presentation on issues related to capping, and also the  
19 capacity of the project to support future land uses.

20 And, of course, after the presentation,  
21 there will be opportunities to ask questions.

22 So thank you very much. Good night. See  
23 you tomorrow.

24

25 (ADJOURNED TO THURSDAY, MAY 11, 2006 AT 1:15 P.M.)

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CERTIFICATE OF COURT REPORTERS

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Lorrie Boylen, CCR

Sandy Adam, CCR

Ruth Bigio, CCR

Gwen Smith-Dockrill, CCR

Wednesday, May 10, 2006 at Halifax, Nova Scotia