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CONSOLIDATED HEARINGS BOARD

IN THE MATTER OF Sections 2 and 3 and 6 (3) of the Consolidated Hearings Act, 1981, S.O. 1981, c.20;

— and —

IN THE MATTER OF Section 12(2) of the Environmental Assessment Act, R.S.O. 1980, c.140;

— and —

IN THE MATTER OF Sections 30, 35 and 38 of the Environmental Protection Act, R.S.O. 1980, c.141, as amended;

— and —

IN THE MATTER OF Sections 24 and 61 (2) of the Ontario Water Resources Act, R.S.O. 1980, c.361, as amended;

— and —

IN THE MATTER OF Section 28 (3) of, and Regulation 164 under, the Conservation Authorities Act, R.S.O. 1980, c.85, as amended;

— and —

IN THE MATTER OF Section 40(12) of the Planning Act, S.O. 1983, c.1, as amended; in connection with site plan control of the sanitary landfill site;

— and —

IN THE MATTER OF Section 22(1) of the Planning Act, 1983 in connection with a referral to this Board by the Honourable Bernard Grandmaitre, Minister of Municipal Affairs, on a request by the Regional Municipality of Halton to amend the Official Plan for the Town of Milton to redesignate a parcel of land comprising Part Lots 3 and 4, Concession 2 N.S. in the Town of Milton from "Agriculture" and "Conservation and Hazard Lands" to permit the construction, operation and maintenance of a landfill site, Minister's File No. 24-OP-0208-A01;

— and —

IN THE MATTER OF Section 34(11) of the Planning Act, 1983 in connection with an appeal to this Board by the Regional Municipality of Halton for an order directing an amendment to By-law 61-85 of the Town of Milton to rezone the lands situated at Lot 3 and part of Lot 4, Concession 2 N.S., in the Town of Milton from "Agriculture" to permit a regional sanitary landfill site and ancillary uses;

— and —

IN THE MATTER OF Section 15(1) of the Planning Act, R.S.O. 1980 ch.379 in connection with a referral by the Honourable Claude F. Bennett, Minister of Housing on a request by Tremaine Britannia Citizen's Group for consideration of part of the Official Plan for the Halton Planning Area with respect to Sections 1 to 5 inclusive, 7, 9 and 10 of Part III D3 Solid Waste Management, Minister's File No. OPC.0026;

— and —

IN THE MATTER OF Section 64 of the Ontario Municipal Board Act, R.S.O. 1980, c.347 as amended in connection with an application by the Regional Municipality of Halton for an order approving:

a) the acquisition of land for the construction, operation and maintenance of a sanitary landfill site to contain 7.96 million cubic metres of waste in the Regional Municipality of Halton and to do so by one of two alternative methods as follows:

- (i) landfilling at the site referred to in Halton's Environmental Assessment as Site F in the City of Burlington;
- (ii) landfilling at the site commonly referred to in Halton's Environmental Assessment as Site D in the Town of Milton

at an estimated cost of \$12,775,000.00, and the borrowing of money by way of temporary advances not exceeding in the aggregate such estimated cost pending the sale of debentures, and

(b) the issuance of necessary debentures to a maximum of \$12,775,000.00 for a term not to exceed fifteen years;

— and —

IN THE MATTER OF Section 193(5) and Paragraph 84 of Section 210 of the Municipal Act, R.S.O. 1980, c.302, as amended;

— and —

IN THE MATTER OF Sections 6, 7 and 8 of the Expropriations Act, R.S.O. 1980, c.148;

— and —

IN THE MATTER OF an undertaking of the Regional Municipality of Halton to provide facilities for the purpose of receiving, dumping and disposing of waste as required by section 137 of the REGIONAL MUNICIPALITY OF HALTON ACT, R.S.O. 1980, c.436, as amended, by acquiring the land for, constructing, operating and maintaining a landfill to contain 7.96 million cubic metres of waste in the Regional Municipality of Halton.

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NETHERCUT & COMPANY LTD.

185 RICHMOND ST. W.,

TORONTO, ONT. M5V 1V3

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BEFORE: H. H. Lancaster, Q.C. - Chairman
Dr. D.J. Kingham - Member



Nethercut & Co. Ltd.

Toronto, Ontario

Hearing conducted at The Oakville
Granary Commercial Centre, 105 Robinson
Street, Oakville, Ontario, on Tuesday,
January, 19, 1988

VOLUME 76

APPEARANCES:

T.R. Lederer and H.D. Hodgson	for the Regional Municipality of Halton (Proponent)
J.R. Tidball	for the Ministry of the Environment
T. Vigod J.F. Castrilli	for the West Burlington Citizens Group
D. Estrin, F.E. Leitch and H. Dahme	for the Corporation of the Town of Milton
S.R. Garrod and A. Nurvo	for the Milton Area Citizens Coalition and several affected Milton area landowners
R.B. Tuer, Q.C. E.A. Cronk, F. Perrier and L. J. Griffiths	for National Sewer Pipe Limited
L.F. Longo	for Azova Investments Limited
M.J. McQuaid, Q.C. and C.J. Tzekas	for the City of Burlington
C. Mansfield	for the Ministry of Natural Resources
P. Renaud	for Cumis Limited



Nethercut & Co. Ltd.

Toronto, Ontario

APPEARANCES (Cont'd):

1		
2	C. Stevenson	for Framgard Holdings,
3	P. Hancock	Fosseri Investments
4		Limited, Seriphos
5		Investments Limited and
6		Topic Investments
7		
8	J.H. Olah	for the Halton Region
9		Conservation Authority
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Toronto, Ontario
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Per: C.F. Nethercut, CVR



Oakville, Ont.
January 19, 1988

1

2

Upon commencing at 9:30:

3

MR. LANCASTER: Please be seated.

4

VICTOR KOVACHIK (Resumed):

5

MR. LEDERER: Mr. Tidball has just

6

advised me he has a couple of questions for

7

Mr. Kovachik and I have indicated I would be quite

8

happy to have him interject, as it were, in my cross-

9

examination to ask his questions now.

10

MR. LANCASTER: All right.

11

CROSS-EXAMINATION BY MR. TIDBALL:

12

MR. TIDBALL: I think I am this

13

morning's guest cross-examiner.

14

MR. LANCASTER: You are very fortunate

15

we didn't finish last night.

16

MR. TIDBALL: Q. I have a couple of

17

questions for you, and my name is Tidball and I am with

18

the Ministry of the Environment, and my associate

19

Mr. Parsons has been listening to your evidence and

20

there are a few questions which have arisen out of it.

21

Just so I understand, because I haven't

22

heard all the evidence, Mr. Kovachik, as I understand

23

it, the first flight out of the Air Park was in 1962?

24

A. That is correct.

25

Q. You didn't actually own the



1 property or come on to the property until some time
2 later than that?

3 A. That portion of the property we
4 owned.

5 Q. You did own it?

6 A. Yes.

7 Q. You were there for the first
8 flight?

9 A. Yes.

10 Q. Is there, or does your Air Park
11 keep any log or any kind of record of bird strikes and
12 are pilots encouraged or required to report to you?

13 A. Pilots are encouraged to report,
14 but to this date there are only two that have been
15 reported to me.

16 Q. There is no record that Transport
17 Canada requires you to keep or anything like that?

18 A. Nothing I know of at this point.

19 Q. Mr. Kovachik, would it be
20 realistic to assume there have been gulls on the Air
21 Park property in the past?

22 A. Yes.

23 Q. There are gulls there on any given
24 day?

25 A. Yes, there are.



1 Q. I take it you have seen gulls on
2 the property?

3 A. Yes.

4 Q. Are you able to say or to estimate
5 at all what kinds of numbers of gulls there are there
6 presently?

7 A. I guess to take a guess at it, I
8 would say maybe on certain mornings you may see 40 or
9 50.

10 Q. Do they tend to congregate in any
11 particular time of the year?

12 A. Yes, they do, and I am just not
13 too sure, but it seems in the fall you see more of
14 them.

15 Q. Thank you. Now, Mr. Kovachik,
16 back when this hearing first started, and it would have
17 been in May when I think about it, we heard some
18 evidence from Miss Hellas on behalf of the Region. I
19 don't know if you were here for it or have seen her
20 evidence?

21 A. No.

22 Q. Have you seen Miss Hellas' report,
23 Exhibit H-17, the Halton Regional Landfill Technical
24 Study Biophysical Analysis Report?

25 A. I haven't.



1 Q. Can I take it then you have never
2 seen what is in fact contained within this report,
3 various mitigation measures listed for birds, and there
4 is a section in here, and for the record at pages 115
5 through 117, of procedures Miss Hellas suggested could
6 be implemented at the Air Park?

7 A. I haven't seen that.

8 Q. If you could just assume that in
9 fact Miss Hellas has made those recommendations, it
10 occurs to us, Mr. Kovachik, that at least some of those
11 recommendations would require access to the property of
12 the Air Park in order to carry them out and would
13 require co-operation. I guess the real question I am
14 coming to is whether you as the owner of the Air Park
15 would be prepared to allow access to regional
16 representatives if mitigation measures were necessary?

17 A. Yes, I would.

18 Q. Would you be prepared to allow
19 access for the purposes of carrying out studies, if in
20 fact such study was required as part of some approval
21 of Site D?

22 A. I would.

23 MR. TIDBALL: Thank you. Those are my
24 only questions. Thank you, Mr. Chairman.

25 MR. LEDERER: That has certainly



1 shortened things up a little bit, sir. I don't know if
2 I have ever said that to Mr. Tidball before.

3 MR. LANCASTER: I was going to mention
4 if Mr. Parsons has some questions and some concerns
5 when you are not present he can always ask questions
6 through the Board.

7 MR. TIDBALL: I mentioned that to
8 Mr. Parsons if he would like to get up and ask
9 questions and perhaps he will in the future.

10 MR. LEDERER: Those of us who know
11 Mr. Parsons may have some objection to make to that on
12 purely a personal basis.

13 MR. LANCASTER: I did say he could ask
14 them through the Board.

15 CROSS-EXAMINATION BY MR. LEDERER (Resumed):

16 Q. One matter I should mention now
17 is, I asked yesterday that I have provided to me the
18 financial statements of the companies or company which
19 demonstrates the operation of Burlington Air Park; all
20 of which I gather, Mr. Kovachik made some reference to
21 and I understood I would receive those this morning.
22 What I received is something which I presume the Board
23 will understand for my purposes is not acceptable, but
24 it is two letters, one dated January 19, 1988 and is
25 not signed, but has typed at the bottom Vic Kovachik,



1 .President?

2 A. I can sign that.

3 Q. I just wish to indicate it is from

4

5 Mr. Kovachik and I won't mention the amount, but it
6 shows the total night bank deposits for Spectrum
7 Airways for the year 1987 and a handwritten note, and I
8 don't know whose name that is at the bottom, but ...

9 A. That is my signature.

10 Q. It has a figure for the total
11 sales for the year 1986 and the total sales for the
12 year 1987. These may support the point, or one of the
13 points Mr. Estrin was attempting to make in raising
14 this issue as to how much all of this was bringing into
15 the economy of the area, but it does nothing to assist
16 me with respect to the points I wish to raise on these
17 matters.

18 Having been raised, it is my position
19 that I have the right to inquire into them further, and
20 if the matter of the financial status of these
21 companies is not held to be relevant or is felt to be
22 in some way inappropriate to be raised here, Mr. Estrin
23 should not have introduced this, but, having been
24 introduced, I would like more information.

25 Mr. Kovachik said this morning that he



1 is concerned about that, as I would expect he would be,
2 and I have attempted to indicate to the Board yesterday
3 and repeated to him that I understand the sensitivity
4 and I want to see the figures and if I don't need them
5 there is no issue, but if I do need them I will not
6 start asking questions, but discuss it with the Board
7 first, how to deal with it; but, I take it I have that
8 right and I would like that matter looked into further
9 and if I am not going to get them then I think the
10 Board as it told Mr. Estrin may have to draw some
11 pretty stiff inferences about what it all means.

12 MR. LANCASTER: Mr. Estrin, do you have
13 those financial statements and could you make them
14 available to Mr. Lederer on that basis?

15 MR. ESTRIN: May I have everyone's
16 permission to talk to Mr. Kovachik?

17 MR. LANCASTER: Yes.

18 MR. ESTRIN: I didn't have that
19 clearance so I did not discuss the matter with him
20 overnight except to remind him to bring whatever
21 Mr. Lederer requested. I will certainly discuss the
22 matter with him since I can, say at the next break, and
23 he told Mr. Lederer I think that financial statements,
24 I understand, are in the hands of his lawyer or
25 accountants.



1 MR. LANCASTER: He said that yesterday.

2 MR. ESTRIN: I will certainly contact
3 them and arrange for them to be provided to
4 Mr. Lederer, first -- or at least on the first level on
5 the understanding they won't be tendered as an exhibit
6 until we have had a chance to further discuss the
7 matter.

8 MR. LANCASTER: I wouldn't want to take
9 them as an exhibit, but he may want to use them, and we
10 can discuss that point later.

11 MR. LEDERER: I would be repeating
12 myself because I won't stand up here and wave them
13 around and that wasn't my purpose. In fact I will now
14 return these two letters to Mr. Kovachik because they
15 don't particularly help me, but I might as well do it
16 now.

17 MR. ESTRIN: If you can return them to
18 me.

19 THE WITNESS: Thank you.

20 MR. LANCASTER: It may be, Mr. Kovachik,
21 perhaps it may be more of a formal requirement than
22 anything else.

23 THE WITNESS: I will give this
24 information to our corporate lawyer and he can get the
25 accountant and get from Mr. Lederer what is necessary



1 or how much he feels is necessary and I think I will
2 handle it that way.

3 MR. LANCASTER: The point is
4 Mr. Lederer should be able to look at them and draw his
5 own conclusions under those conditions.

6 THE WITNESS: Okay.

7 MR. LEDERER: Thank you.

8 Q. Let me repeat something I said
9 yesterday, and I hope it will lighten everyone's
10 spirits a little bit, but I don't expect to be terribly
11 long.

12 MR. LANCASTER: You said half an hour.

13 MR. LEDERER: Did I say half an hour?
14 I may turn out to be longer than that, but I may turn
15 out to have been right.

16 Q. To remind you, we just got started
17 yesterday and as I recall I raised with you three
18 points and you first all agreed that waste disposal
19 facilities are difficult to locate and you agreed with
20 me that somebody will be disrupted, somebody's use of
21 property or style of life or whatever will be disrupted
22 no matter where you locate it, and you also agreed that
23 development has occurred in this area, the area in
24 which your Air Park is located and that has been to
25 your benefit in that it has increased your business



1 both in terms of those taking your flying classes and
2 those businesses interested in making use of your
3 facilities; and do you recall all that?

4 A. Yes.

5 Q. Can we agree and if necessary, and
6 perhaps it is necessary, but I can refer you to
7 Mr. McDonald's witness statement and one of the
8 documents in there, the guidelines which I am sure he
9 is going to discuss in greater detail concerning bird
10 hazards, and I believe it is a manual, and also to the
11 material at Tab 8, the air navigation system
12 requirements land use in the vicinity of airports
13 documents. I suppose I should first ask you whether or
14 not -- Tabs 6 and 7 -- whether or not you are familiar
15 with either of these documents. First of all, Tab 6,
16 the manual of airport bird hazard controls, and have
17 you ever seen that?

18 A. I believe I have it.

19 Q. The second is the Air Navigation
20 System Requirements Branch Land Use in the Vicinity of
21 Airports?

22 A. I believe I have that. I don't
23 believe I have it with me, but I think I have it at
24 home.

25 Q. Do you understand that among



1 things in these documents are indications of the
2 penchant of certain activities of man to attract birds?

3 A. Yes.

4 Q. Just to take the material at Tab 6
5 as an example, do you have an extra copy of this,
6 Mr. Estrin?

7 MR. ESTRIN: I don't.

8 MR. LEDERER: Q. Perhaps I can show
9 you, and this is an original copy of the document. I
10 will be referring to these pages and just for your
11 edification, I am happy to read the handwritten notes,
12 but it has nothing to do with this hearing?

13 A. Very well.

14 Q. On those pages, and this is
15 Appendix G, principally pages G-3 and G-4, but here we
16 have a list of items which will presumably to varying
17 degrees attract birds. Do you see that?

18 A. I do.

19 Q. Are you prepared to accept those
20 things as land uses which will attract birds in
21 different measure?

22 MR. ESTRIN: When you look at page G-3
23 it says yes and no with respect to certain uses. Mr.
24 Lederer made a blanket statement which seems to assume
25 that all of those are attracting birds and perhaps he



1 would like to clarify that with the witness?

2 MR. LEDERER: To the contrary that's
3 what it says. The yes and no as referred to in the
4 evidence of Dr. Richardson, the yes and no refers to
5 Area A and Area B and Area A is the area which is 3.2
6 kilometres from the airport and Area B takes in Area A
7 and an additional distance to get you to 8 kilometres
8 or five miles from the airport; and the yes and no
9 refer to uses which are permitted within those various
10 areas but that does not detract from the fact that all
11 of these things attract birds but simply some of them
12 are permitted within those zones.

13 Q. I repeat the question, and this
14 was reviewed with Dr. Richardson ...

15 MR. ESTRIN: Mr. Lederer is giving
16 evidence. Is he testifying offices attract birds?

17 MR. LEDERER: Exactly.

18 MR. ESTRIN: An interesting proposition
19 and I wonder if he would like to take the witness
20 stand.

21 MR. LEDERER: The whole objection is
22 improper because the witness could have denied this.
23 We have Mr. Estrin's answer, but I want to ask the
24 witness if he will accept that all of these things in
25 varying degrees attract birds and that is precisely the



1 question I asked you before.

2 THE WITNESS: I would say to varying
3 degrees they probably do.

4 MR. LEDERER: Thank you.

5 Q. Do you agree that some of these
6 land uses are associated with development. For
7 example, let's take commercial, offices and retail
8 sales, hotels and motels, restaurants, parking lots,
9 warehouses, shopping centres, all those thing you
10 associate with development?

11 A. Yes.

12 Q. If you look at the recreational or
13 the listing under recreation, you also associate those
14 with development of a different sort but development
15 nonetheless, do you agree?

16 A. Yes.

17 Q. Wildlife sanctuaries. Wouldn't
18 you associate that with development in the sense that
19 when you get development it is necessary to provide
20 these kind of facilities and to protect birds and
21 wildlife?

22 A. I suppose you do.

23 Q. Are you familiar with Bronte Creek
24 Provincial Park?

25 A. I am.



1 Q. Where is it in relation to Site D?

2 A. The provincial park is probably
3 six miles south of the Site D and almost in line --
4 slightly west and south.

5 Q. As a provincial park is the area
6 protected in terms of the wildlife that lives there?

7 A. Yes, sir.

8 Q. Now, my proposition is this; what
9 we have then as a result of development is the coming
10 to any area in a generic sense of land uses which will
11 to varying degrees attract birds. Do you agree?

12 A. Yes, I do.

13 Q. Can I assume that you have not as
14 of yet and until your appearance here or until your
15 interest in this particular matter objected in any
16 fashion to the coming of this development?

17 A. No, I haven't.

18 Q. Do you accept Mr. Richardson's
19 evidence which I gather you were present for?

20 A. Some of it, yes.

21 Q. That's important, so let me ask
22 you specifically about a couple of things. First of
23 all, will you accept his evidence that there are many
24 airports where there the risk of bird strikes exists?

25 A. Yes.



1 Q. Will you accept his evidence that
2 at least some of those airports are not associated with
3 landfill in the sense there is no landfill within 8
4 kilometres?

5 A. Yes.

6 Q. You are not suggesting I presume
7 that those airports don't operate to an acceptable
8 degree of safety, do you?

9 A. No, I am not.

10 Q. So, can we agree then that what
11 happens when there is a bird risk or the risk of a bird
12 hazard, the airport has to adapt in some fashion?

13 A. I would say so, yes.

14 Q. These airports have done that or
15 are attempting to do so?

16 A. Right.

17 Q. Can we also agree then that at
18 your airport there have been at least two bird strikes?

19 A. That is right.

20 Q. I presume, sir, that you
21 understand that that is a risk of operating your
22 airport at the moment?

23 A. Yes, it is.

24 Q. In a sense you haven't done
25 anything specific to adapt to that; is that fair?



1 A. We have had no reason to.

2 Q. What that tells us is that there
3 is some degree of risk of bird hazard which we simply
4 have to accept. There is a risk of bird hazard here
5 because you have had two strikes but you don't do
6 anything about it because it is a risk that's there and
7 to a certain degree you simply have accepted it?

8 A. Over 26 years we have had two bird
9 strikes.

10 Q. Answer the question; however few
11 there may be, there is a risk and you told
12 Mr. Tidball this morning that at times you have 40
13 birds on the site and would you agree there is a
14 certain level of risk that is accepted because there is
15 an airport there? I am not being critical.

16 A. I agree with you.

17 Q. Would you accept Dr. Richardson's
18 evidence that even with a landfill here, the risk of a
19 serious accident at this Air Park is unlikely?

20 A. I can't go along with that, a
21 serious accident, because it could happen tomorrow. I
22 don't know how to answer.

23 Q. It could happen tomorrow without
24 the landfill, isn't that correct?

25 A. It could happen anytime and I



1 can't say that this ...

2 Q. Let me ask the question again. I
3 accept it could happen any time, but will you accept
4 that it is unlikely. It could happen but it is
5 unlikely?

6 A. I would say it is unlikely, yes.

7 Q. Would you agree with
8 Dr. Richardson's evidence that even with the landfill
9 in place it would be unlikely and you have no reason to
10 disagree with that?

11 A. No, I will go with the expert.

12 Q. Thank you, sir. So, sir, can we
13 agree then that the question here really is whether or
14 not with a landfill in place the risk of a bird hazard
15 is an acceptable level of risk, and you have agreed
16 that there are airports that operate with bird hazards
17 and they have adapted to this, and you have agreed
18 there is already a risk of a bird hazard at your
19 airport, how slight that may be, and you have agreed
20 that it is unlikely there will be a serious accident
21 with a landfill, and would you agree that the issue is
22 not stopping all bird strikes, but looking at whether
23 the risk of something serious happening is an
24 acceptable risk given everything else we need to look
25 at?



1 A. I would have to agree with you.

2 Q. Now, sir, will you agree with me,
3 and I think you did yesterday, that in siting a
4 landfill there are lots of other concerns that this
5 Board and the municipal agencies responsible have to
6 consider?

7 A. Yes.

8 Q. In fact if we review your two
9 letters, the one to Mr. Perlin and the one to
10 Mr. Walker, they both raise a completely separate
11 concern with respect to the present Site F, don't they?

12 A. Yes.

13 Q. So we agree then that there are a
14 number of things that need to be looked at and we
15 agreed earlier that somebody is going to have their
16 lifestyle disrupted. Would you agree with me that all
17 of these concerns then need to be balanced to find an
18 acceptable and hopefully the best answer, and that is
19 the best -- acceptable and hopefully the best location
20 for a landfill?

21 A. I would agree with you, yes.

22 Q. Now, can I assume that since you
23 tell Mr. Tidball that you have not reviewed
24 Miss Hellas' report, nor would you be qualified to
25 review the hydrogeological studies done here?



1 A. I know nothing about hydro-
2 geology.

3 Q. You haven't reviewed nor would you
4 be qualified to review the studies with respect to
5 noise?

6 A. Which?

7 Q. Noise and noise impact?

8 A. I haven't.

9 Q. Or traffic impact?

10 A. No.

11 Q. Or hydrology?

12 A. No.

13 Q. In fact any of the other evidence
14 which has been led here?

15 A. That is correct.

16 Q. So then you are not in a position
17 to carry out the job which ultimately will be left to
18 the Board, which is to balance out all of these
19 concerns?

20 A. That is correct and I am not in
21 that position.

22 Q. All you can really do, and I guess
23 this is all you are doing, is indicate to the Board
24 that there is another area of concern that you want
25 them to work into the balance. Is that fair?



1 A. Yes.

2 Q. Can we agree that it may be that
3 having done that and having looked at Dr. Richardson's
4 evidence and the fact that it is unlikely there will be
5 a bird hazard, a serious bird strike, and having looked
6 at all the other evidence, it is still possible, isn't
7 it, that this Board might yet decide that Site D is the
8 site which should be approved, balancing everything
9 they have to look at? You understand that is a
10 possibility?

11 A. I do.

12 Q. In those circumstances can we
13 agree that your Air Park could continue to operate and
14 you might have to adapt in some way?

15 A. Yes, I do.

16 Q. Now, sir, as I understood it
17 yesterday, your concern with that possibility was that
18 it might cost you something to put in mitigative
19 procedures. Am I right in that?

20 A. Yes.

21 Q. One of the things that bothers me
22 about your evidence, and let me be entirely clear about
23 this, but you indicated yesterday and you agreed with
24 me this morning that as a result of development in this
25 area, your business has improved and you have profited;



1 isn't that right?

2 A. Yes.

3 Q. Here is an aspect of development
4 that will cost you something and is the other side of
5 the coin. If I understand you correctly, you are not
6 prepared to contribute to that cost. Am I
7 understanding correctly? You will take the benefits
8 but won't pay the costs. Is that fair?

9 A. I don't have a problem now and I
10 understand there is an alternative which I am sure will
11 be decided by the Board, and consequently I feel why
12 should I, why should I have to be burdened with this?

13 Q. Let's go back and look at that.
14 There has been development in this area; correct?

15 A. That is correct.

16 Q. That has increased your business
17 and you have profited? Right? Correct?

18 A. Correct.

19 Q. Some of that development may bring
20 land uses which attract birds; correct?

21 A. Correct.

22 Q. You have never objected to that
23 before, have you?

24 A. I have no reason to.

25 Q. To the contrary you have continued



1 to this point to profit from this development; correct?

2 A. That is correct.

3 Q. Now we have an aspect of
4 development which would appear you may not profit from
5 and it may cost you something. Can we agree?

6 A. That is correct.

7 Q. What I am suggesting to you is
8 that as a member of society, however you want to put
9 it, it is kind of unfair for you to say I will take all
10 the benefits, I will profit from development, but I am
11 not prepared to pay the cost when it comes to costing
12 me something, and I am asking you, won't you agree that
13 that is a rather unfair approach to take?

14 A. I don't think so, the reason being
15 that we had this situation before, and where we had
16 landfill and problems may have been there, I would not
17 have gone to the extent that I had.

18 Q. I don't understand?

19 A. I just wouldn't -- if there was a
20 problem and if I am working with something that will
21 cost me a lot of money, then I may have changed my plan
22 or modified my plan to suit what I had to do.

23 Q. Excuse me, but Mr. Tzekas reviewed
24 this with you yesterday. You have known at least since
25 1978 that there was a possibility of a landfill going



1 in in proximity to this Air Park; isn't that right?

2 A. Yes.

3 Q. In fact you appeared at the 1978
4 hearing and gave evidence?

5 A. Right.

6 Q. You wrote two letters in 1983, one
7 to Mr. Perlin and one to Mr. Walker regarding this
8 problem?

9 A. Yes.

10 Q. In spite all of that you have
11 undertaken -- I am sorry, I have lost my train of
12 thought. Despite all of that you have undertaken all
13 of the changes and improvements in your Air Park that
14 you reviewed with Mr. Estrin in your evidence; isn't
15 that right?

16 A. That is right.

17 Q. So, sir, in fact you have acted on
18 these expansion plans knowing that you are at risk with
19 respect to this landfill or a landfill in some similar
20 location; isn't that right?

21 A. Yes, but just because something is
22 going on you don't stop breathing.

23 Q. But you mat take a risk, and that
24 is what you have done, and you have profited from your
25 risk because your expansion has responded to



1 development in the area; isn't that right?

2 A. Yes.

3 Q. Sir, in 1983 -- could I just have
4 a moment, sir? Now, I am interested in what you have
5 done about this problem over the years and I would like
6 to review that. You appeared at the hearing in 1978?

7 A. Yes.

8 Q. You wrote the letter to Mr. Perlin
9 dated 1983?

10 MR. ESTRIN: We have copies here now.

11 MR. LANCASTER: That will be Exhibit
12 421 but we haven't got it.

13 MR. LEDERER: Q. Do you have a copy?

14 A. Yes.

15 Q. This is a letter dated April 12,
16 1984 and I think we referred to it earlier as being
17 1983 and you also wrote the letter to Mr. Walker in
18 February of 1983?

19 A. Yes.

20 MR. LEDERER: Q. Would you say these
21 are the only letters you have written to the Region or
22 its agents or consultants with respect to this
23 question?

24 A. I believe so.

25 Q. Perhaps Mr. Estrin will permit me,



1 and he can double check this, but we have reviewed the
2 submission reports and we don't find other
3 correspondence from Mr. Kovachik in them and so these
4 are then the only letters you wrote. You understand
5 that since that time there have been a large of series
6 of studies concerning this proposal?

7 A. Yes.

8 Q. But you never wrote any other
9 letters concerning those proposals?

10 A. I haven't.

11 Q. When we come to measure your level
12 of concern with respect to this issue, and when the
13 Board does that, it is fair to say that one of the
14 things it might look at is the fact that you haven't
15 written a letter about this in the last four years?

16 A. Well, we have covered the subject
17 once and we could keep on adding and writing letters,
18 but I don't see what else I could have added.

19 Q. At the time you wrote those
20 letters, the site under consideration was what became
21 known here as old Site F?

22 A. Yes.

23 Q. Would you agree?

24 A. Yes.

25 Q. Would you agree with me that in



1 fact you haven't written anything with respect to this
2 particular proposal, isn't that right?

3 A. I did make an attempt at a meeting
4 with Burlington to express my views and was referred or
5 was told the Region would be looking after it.

6 Q. You didn't meet with the Region?

7 A. I did not.

8 Q. You have not communicated with the
9 Region about your concerns with respect to this
10 proposal?

11 A. I have not.

12 Q. Pardon?

13 A. Not since the letter that went to
14 Mr. Perlin.

15 Q. With respect to the earlier
16 proposal?

17 A. That is right.

18 MR. ESTRIN: That's not quite right,
19 with the greatest of respect, because the Board will
20 recall that Site F was one of about six sites on the
21 table in 1983.

22 MR. LEDERER: The record is clear and it
23 is not appropriate. If Mr. Estrin has an objection he
24 is free to stand up and at the end of the day we will
25 have argument and everyone will explain what they



1 thought they meant, and if the evidence doesn't sustain
2 it then we will have a problem and I will have that
3 problem just as Mr. Estrin will, but it is not
4 appropriate for Mr. Estrin to stand up and start
5 reminding people of the evidence. We all understand
6 the limits of Mr. Kovachik and my questions aren't
7 being unfair and I am not suggesting there is something
8 he should know he doesn't know or anything like that.
9 The letter speaks for itself and Mr. Kovachik agreed
10 with me and that's all that is really required.

11 MR. ESTRIN: I only rise when
12 Mr. Lederer states something which would prejudice
13 getting a helpful answer. As I pointed out, the way
14 Mr. Lederer put the question was not in accordance with
15 the state of things because it was not the only site on
16 the table in 1983 as you will recall from the site
17 selection process.

18 MR. LANCASTER: The matter is clear to
19 the Board at any rate.

20 MR. LEDERER: Let me make sure I
21 understand where we are because I must confess I am a
22 bit confused.

23 Q. When you wrote these letters were
24 you writing them with respect to old Site F, the Site E
25 in this proposal?



1 A. We were discussing Site F as far
2 as I was concerned my objection was the same to
3 whatever it would be, wherever the site would be. You
4 are talking about a site within range of the airport.

5 Q. Let me explain or maybe we ought
6 to look at this because it is a bit of a problem. If
7 you look at the letter of April 12th, 1984 to
8 Mr. Perlin, it really talks about both sites as Site F
9 and in the second paragraph it is regarded as the one
10 that deals with drinking water problems. Now, you live
11 near the present Site F, don't you?

12 A. No. The original Site F was the
13 north side of Britannia.

14 Q. But when this letter of April 12
15 in the second paragraph says:

16 "I do not want this letter to be
17 construed as an endorsement of the Site
18 F proposal since I would rather have
19 sanitary land fill somewhere else for my
20 personal reasons including the security
21 of my drinking water supply..."

22 What site are you referring to?

23 A. Site F at the intersection of
24 Tremaine and Britannia.

25 Q. So this is referring -- the reason



1 I don't understand that is because at the top you talk
2 about Site F and the bird problems and then you go on
3 to say:

4 "I do not want this letter to be
5 construed as an endorsement of the Site
6 F proposal."

7 And it seems inconsistent in some fashion?

8 A. I am saying if you guys are going
9 to protect me in some fashion, great, but don't take it
10 to mean that I am going along with it.

11 Q. When you talk about Site F in both
12 those paragraphs, you are talking about old Site F,
13 Britannia and Tremaine Roads?

14 A. That is right.

15 Q. Again these letters deal with that
16 site and this is the later of the two letters and we
17 have no correspondence from you dealing with Site D,
18 the present proposal?

19 A. No, you haven't.

20 Q. We have no correspondence from you
21 at all since 1984 dealing with any proposal?

22 A. That is correct.

23 Q. Now, when we come then to measure
24 your level of concern for this issue, it would be fair,
25 wouldn't it, to take into consideration the fact that



1 there are no letters from you for the last four years.
2 Can we agree?

3 A. If there are no letters from you I
4 agree.

5 Q. Quite apart from letters to the
6 Region and meetings with the City of Burlington, do you
7 understand, and tell me if you do, but do you
8 understand that the Ministry of the Environment has a
9 process by which it seeks comments from the public?

10 A. I understand they do, but I wasn't
11 involved.

12 Q. That's my point. You made no
13 comments to the Ministry of the Environment, did you?

14 A. No, I did not.

15 Q. You didn't make any comments with
16 respect to Site D, no letters since '84, and you have
17 made no comment to the Ministry of the Environment; can
18 we agree?

19 A. That's right.

20 Q. When we come to judge your level
21 of concern we want to consider that you didn't take the
22 time to go to the Ministry of the Environment and
23 through their review process and express a concern, and
24 we have to look at that?

25 A. The way I looked at it is that I



1 have already objected and all they have done is taken
2 from the garbage dump and moved it from there to there,
3 so what must I do, follow everyone around and keep on
4 yelling about it?

5 Q. We will come back to that because
6 I will point something out about that in a minute. Can
7 we agree that the whole issue of birds and planes is a
8 matter of concern to your industry?

9 A. It is.

10 Q. As a result of that there is a
11 reporting system which is in place?

12 A. A reporting?

13 Q. A reporting of bird strikes to
14 Transport Canada?

15 A. There is.

16 Q. That is how they develop their
17 statistics, isn't that right?

18 A. Yes.

19 Q. You have had two strikes at your
20 Air Park?

21 A. Right.

22 Q. They have not been reported to
23 Transport Canada?

24 A. They have not.

25 Q. You were aware of those strikes,



1 were you not?

2 A. Yes, one was a recent strike and
3 it has not yet been reported.

4 Q. When we come to measure your level
5 of concern with this problem, isn't one of the things
6 we take into account is the fact that you have not been
7 reporting the strikes when they occurred?

8 A. I generally -- generally I would
9 say strikes are not reported to the extent you are
10 putting on it now. Neither of the strikes amounted to
11 anything in this case, and the first strike was an
12 unknown bird.

13 Q. Sir, I am just trying to come to
14 grips, as I say, with really how concerned you are with
15 all of this and my point is if you are really concerned
16 wouldn't you do what you are supposed to do and report
17 it to Transport Canada?

18 A. Certainly, but what good will that
19 do? What happens? Do they come out with a wand ...

20 Q. I guess we will hear from
21 Mr. McDonald about that. Now, sir, you indicated some
22 concern about this problem and Mr. Tidball asked you
23 whether or not you had reviewed Miss Hellas' report. Do
24 you recall that?

25 A. Yes.



1 Q. You indicated to him you had not?

2 A. I had not.

3 Q. If I were to tell you that, for
4 example, pages 71 -- I will just see if I am right and
5 I think about -- I don't have the right page number and
6 I apologize, but page 80. I am sorry, I thought I had
7 it marked. Starting at pages 91 through to page 117
8 dealt with this issue but that is something that you
9 are not aware of, is that right?

10 A. I have never seen that book to my
11 knowledge.

12 Q. If I were to tell you that those
13 pages deal with bird control measures with such
14 headings as background and which has a discussion of
15 other air parks and there is reference to the Maple
16 study referred to by Dr. Richardson and methods of
17 control, scaring, visual scaring techniques, acoustical
18 scaring techniques, combined visual and acoustical
19 scaring techniques, effectiveness of scaring
20 techniques, removal techniques including trapping and
21 population reduction, habitat manipulation and then a
22 series of recommendations with respect to this problem,
23 you are not familiar with that, is that correct?

24 A. That is correct.

25 Q. So, in fact you are not able to



1 tell us whether or not the Region has dealt with this
2 matter in a fashion which is acceptable to you because
3 you haven't reviewed their report which deals with it;
4 isn't that right?

5 A. I have never received it.

6 Q. If I were to tell you these
7 reports were made public and under the authority of
8 this Board and other agencies like the Ministry of the
9 Environment and has been public for some time, and I am
10 guessing but at least a year and a half, and others
11 have been able to get a hold of them, or those
12 interested in the matter, would you agree that for
13 whatever reason you weren't able to or didn't, as a
14 result you can't tell us now whether or not the Region
15 has studied this in a fashion which is acceptable to
16 you or not?

17 A. I can't tell you if it is
18 acceptable to me. The other thing I am kind of
19 surprised at is that normally the Region will mail me
20 in the mail, Burlington Air Park will receive
21 literature and that did not come to me.

22 Q. You said a few moments ago
23 that ... excuse me. I thought I might have more
24 information on the point.

25 Now, the situation we are in is that in



1 1984 you wrote the second of two letters complaining
2 about this and you indicated to Mr. Estrin you attended
3 some meetings. A study was done, do you agree?

4 A. Yes.

5 Q. No comment was received from you
6 concerning that study. Can we agree?

7 A. I didn't know about the study and
8 had I known ...

9 Q. You said that and the Board will
10 be aware of the efforts made to make to notify the
11 public of that, but I will have to leave that, the fact
12 you didn't see it?

13 A. Because the study is about myself,
14 don't you think I should have received that?

15 Q. Do you want to know what I think?
16 It is not up to me to answer your questions, but I
17 think if you are really interested in this matter you
18 would have been looking in the newspapers and you would
19 have got the notice everyone else got and you would
20 have known about the report, a report which I think is
21 important to you.

22 A. They normally send things out and
23 in this case they didn't.

24 Q. Would you agree with me that in
25 the Region's position, having a public report dealing



1 with this topic, it may very well be that the position
2 they were in was that they got your complaints and they
3 had done a study and they didn't hear from you and the
4 reasonable thing to do would be to assume that you
5 found the study acceptable. Isn't that fair?

6 A. No. How would I find it
7 acceptable if they didn't provide me with a copy of
8 that?

9 Q. You say you didn't receive this
10 report. I am going to show you a copy of the report
11 and ask you first of all to check the date and you will
12 see it is August, 1986?

13 A. Yes.

14 Q. I am going to show you a letter
15 from Mr. Ramsay of the City of Burlington dated
16 November 12, 1986 and do you recall receiving that
17 letter?

18 A. No.

19 Q. "Further to our meeting held
20 November 7, 1986, I enclose an excerpt
21 of the latest Regional report pertaining
22 to bird control measures."

23 And do you see that?

24 A. Yes.

25 Q. I am asking you if you recall



1 receiving that letter and do you recall what excerpt of
2 what report you received?

3 A. I don't recall seeing this letter
4 and I don't recall ever getting that.

5 Q. When you say you don't recall; I
6 want to be careful of what you mean. You mean you
7 don't remember whether you got it or not or are you
8 saying you didn't get it?

9 A. I have gone through, in the event
10 of this hearing, I have gone through everything I have
11 and I don't have that and I don't have this.

12 Q. When did you last review your
13 records with respect to this?

14 A. Last weekend, just going through
15 my records.

16 Q. So we now know that you weren't
17 able to find it in your records, but that is not a
18 direct answer to my question. My question was do you
19 remember -- are you saying you never got this, or are
20 you saying you might have got it but you now don't
21 remember and it didn't make its way into your records?

22 A. As far as I know I did not get it.

23 Q. That still doesn't answer my
24 question. As far as you know it is not in your records
25 and I understand that.



1 A. To my knowledge I did not get that
2 and that's all I can tell you.

3 MR. ESTRIN: So the record is complete,
4 in your suggestion on the letter sent by Mr. Ramsay,
5 that would be Mr. Ramsay of the City of Burlington.

6 MR. LEDERER: Yes. I said that. I would
7 file the letter except it has not been identified and I
8 am not sure if it can be properly exhibited in this
9 fashion.

10 Q. Now, sir, ...

11 A. Could I look at that letter to see
12 where that was mailed to? Was it mailed to Spectrum or
13 elsewhere or to myself?

14 Q. The address is V. Kovachik, 5342
15 Bell School Line, R.R.#6 Milton, Ontario, L9T 2Y1.

16 A. That's my address.

17 MR. LEDERER: Could I have a moment?

18 Q. Now, sir, prior to your giving
19 evidence here, did you discuss with anybody the report
20 that had been prepared or asked whether any reports had
21 been prepared?

22 A. Discussed with who? Who do you
23 mean?

24 Q. Anyone. Did you discuss it with
25 Mr. Estrin?



1 A. Yes, and the only report I got was
2 the bird hazard report from Dr. Richardson.

3 Q. So you weren't made aware before
4 giving evidence of the fact that the Region of Halton
5 had done a study dealing with this issue?

6 A. No.

7 Q. Now, sir, I want to briefly review
8 with you some information concerning the statistics
9 which appear in Exhibit 417 and you will also need
10 Exhibit H-396, and I don't know if you have a copy of
11 that, and Exhibit M-412?

12 A. My papers are not labelled as
13 exhibits.

14 Q. M-412 is your chart of the total
15 training hours. M-396 is an exhibit of Dr. Richardson
16 dealing with his study at the proposed Pickering
17 Airport and M-417 is the excerpts of the Central
18 Ontario Air Aviation Master Plan, which was referred to
19 by Mr. Estrin and Mr. Tzekas. Here are two and you
20 don't have the third. I don't want to be terribly
21 long, but a couple of things.

22 First of all, looking at Exhibit M-412,
23 it would appear that the highest period for hours of
24 flight, at least training hours would be in June or
25 July. It appears to be June, but you may read it



1 differently, and this is looking at Exhibit 412?

2 A. Yes.

3 Q. If we compare that to some
4 information which Mr. Richardson brought to us, will
5 you agree with me that in fact June and July appear to
6 be both for intermediate sites, which are two to eight
7 miles inland, and for interior sites, which are 11 to
8 26 miles inland, May and June would appear to be the
9 period where we have the lowest gull populations at
10 these landfills?

11 A. Can we look at this as July-
12 August?

13 Q. I thought you agreed it was June-
14 July?

15 A. Look straight up the line and look
16 at that, June-July and okay, July. I will agree with
17 you that July does become quite a peak there.

18 Q. You would agree that through June
19 and into July it is the lowest period?

20 A. Yes, it is.

21 Q. Now, when we look -- I am sorry,
22 but perhaps we can come back. Would you also agree
23 that when we get the highs for herring gulls, which are
24 the winter gulls, the solid line on Exhibit H-396, and
25 the highs you will agree for that particular species



1 come in October and November?

2 A. Yes.

3 Q. Would you agree that corresponds
4 to the lowest hours of training at your Air Park?

5 A. Yes, it does.

6 Now let's look at '87. Let's look
7 at October '87 and November '87. We are not at the
8 lowest and would you agree with that?

9 Q. Sure.

10 A. We are now reading 550 in October.

11 Q. Would you agree that the lower ...

12 A. It is lower, but nowhere near the
13 lowest.

14 Q. So can we agree that what we have
15 is for herring gulls, the highest herring gull
16 population corresponds to lower use of the Air Park and
17 the highest gull populations correspond to the lower
18 end of the spectrum -- I am sorry, the highest use of
19 the park corresponds to the lower end of the spectrum
20 for the presence of gulls. Can we agree on that?

21 A. We can agree that we are talking
22 the end of July which is where we are at our highest
23 peak and the peak there starts to rise.

24 Q. In July?

25 A. Okay?



1 Q. Yes, very precisely.

2 A. So, we are at a crossroads and so
3 I don't agree with you that it's the lowest.

4 Q. Can we also look at Exhibit 417
5 and would you go to page 4-4. Do you have that?

6 A. 4-4. 4-7, 4-5. 4-4.

7 Q. The first full paragraph on the
8 page, the one directly above the heading "Present
9 Aviation Activity":

10 "In today's aviation environment the
11 uncertainty of many factors has made it
12 increasingly difficult to prepare
13 reliable forecasts..."

14 And do you see that?

15 A. Yes.

16 Q. These are forecasts to air
17 movements; do we agree?

18 A. Yes, I would say so.

19 Q. Can we agree or do you agree that
20 it is in fact difficult to prepare such forecasts?

21 A. Yes.

22 Q. "As a result it is wise for
23 planners to carry out sensitivity tests
24 and the plan findings and conclusions in
25 regard to the high low range predicted



1 for that aviation activity."

2 And do you see that?

3 A. Yes.

4 Q. Has any sensitivity testing been
5 done to determine the accuracy of the predictions made
6 for the year 1986 and which are contained within this
7 study? You can look at the various charts to which
8 Mr. Estrin referred.

9 A. Whether we did any?

10 Q. Have any been done by anyone?

11 A. Not that I know of.

12 Q. All right. So we have a situation
13 where we know it is difficult to come up with these
14 numbers and we don't have any sensitivity testing to
15 confirm the results for 1986. Is that fair?

16 A. Yes.

17 Q. In fact when you gave us your air
18 movements for training flights, as I understood it, you
19 don't actually have any count of the movements, you
20 just took the number 10 and multiplied by the hours
21 shown assuming 10 movements per hour to come up with
22 your number for movements, I think you said 42,000 for
23 1986. Isn't that what you said in direct evidence?

24 A. These numbers -- I supplied this
25 to Mr. Estrin and he transposed this information on



1 this sheet.

2 Q. In direct evidence Mr. Estrin
3 asked you how many movements that represented and you
4 said you thought it would be about eight an hour and he
5 suggested maybe that was a bit low, so you came up with
6 the number 10 and you multiplied 10 times the number of
7 hours to give you the number of movements. Isn't that
8 what you did?

9 A. That is what was done, yes.

10 Q. What you are then doing is basing
11 the number of movements on an assumption of the number
12 of movements you have per hour; right?

13 A. The only way we can do it because
14 no one does an actual count.

15 Q. You will remember yesterday -- let
16 me ask you this first of all. Can we agree that if you
17 have 10 movements an hour you would have a circuit --
18 if I understand you correctly, you would have a circuit
19 every 12 minutes and you would land and that would be
20 one movement?

21 A. Yes.

22 Q. Then you take off immediately
23 which would be two movements and do the circuit and
24 then do it again?

25 A. Yes.



1 Q. When you say 10 movements per hour
2 or 5 circuits, one every 12 minutes, is that a
3 reasonable assumption of how long it takes you to fly
4 the circuit, as you have depicted it on Exhibit M-416?

5 A. After the first takeoff there
6 isn't actually a stop. I think that would be quite
7 reasonable simply because the aircraft does not
8 necessarily stop. He does a touch and he goes. He
9 does a touch and he is down and his flaps are reset for
10 takeoff and he throttles and away he goes, and so that
11 would be reasonable.

12 Q. What this depicts is somebody who
13 is flying circuits and they come down and land and take
14 off immediately and fly around and 12 minutes later
15 they land again and away they go and when you are
16 flying circuits you get in about five every hour. Is
17 that correct?

18 A. Yes.

19 Q. Yesterday in evidence we reviewed
20 page 3-13 of one of these exhibits which indicated that
21 in order to do in-flight training in this area, you
22 were restricted or constrained somewhat and you had to
23 fly some distance away. Do you recall that?

24 A. That is correct.

25 Q. When you do that and when you are



1 in that phase of your training you are not doing 10
2 movements an hour because it takes you longer to get
3 out and do your in-flight training?

4 A. That is correct.

5 Q. When you make an assumption and in
6 fact the number of movements would be lower than you
7 have told us because some of these hours would be taken
8 up with in-flight training away from the airport;
9 wouldn't they?

10 A. Yes, but what we were trying to do
11 was justify the information that was in the COAAMP
12 study.

13 Q. You are using numbers that will
14 justify what is in the COAAMP study?

15 A. When you look at the COAAMP study
16 they tell us something and obviously they must have
17 used some means of gauging or metering that to come up
18 with the numbers and that is the way I see it.

19 Q. Let's look at what we have got
20 here, what you have tried to do in giving us these
21 numbers. For 1986 we have a forecast in the COAAMP
22 study, would you agree?

23 A. Yes.

24 Q. You have told us and the study
25 tells us in fact that that it is difficult to do those



1 forecasts?

2 A. That's right.

3 Q. And in fact the study suggests you
4 do sensitivity tests to make sure and see how accurate
5 your forecasts are; correct?

6 A. Yes.

7 Q. Which you haven't done?

8 A. We haven't done.

9 MR. ESTRIN: I am sorry, but there is
10 nothing in the documents that suggest Mr. Kovachik
11 should do it a sensitivity test. Insofar as the topic
12 is raised and someone wants to rely on some statistics
13 of Transport Canada, perhaps they should, but they are
14 there.

15 MR. LEDERER: I am not suggesting anyone
16 had any responsibility to do a sensitivity study, but I
17 think it is self-evident and I don't think it's proper
18 for Mr. Estrin to rise, but I am demonstrating the
19 weakness in the numbers and I submit the weakness is
20 pretty clear from Mr. Kovachik's evidence. Forecasts
21 which are said to be unreliable and which require
22 sensitivity studies which have not been done and
23 numbers which are justified on the basis of trying to
24 justify these forecasts which we already know are weak.

25 My view is that that demonstrates that



1 these numbers are pretty unreliable and that is what I
2 am getting to.

3 Q. Mr. Kovachik, that is in fact what
4 has happened, there are no sensitivity studies, and you
5 have agreed with that?

6 A. That's right.

7 Q. You have picked this number of 10
8 or 8, or whichever you find preferable, in order to
9 correspond with these COAAMP forecasts. Isn't that
10 what you just said?

11 A. We know the number 8 is definitely
12 very realistic because that is what does happen when
13 they are doing circuits.

14 Q. You agreed with Mr. Estrin...

15 A. Eight or ten, depending on the
16 actual situation.

17 Q. Did you pick the number so that
18 what you came up with would correspond with the COAAMP
19 study?

20 A. I didn't. This is realistic and
21 this number is a realistic number.

22 Q. Let me go back to where I was.
23 You agreed that 10 is a number and the number because
24 of the number you would see if you were flying circuits
25 and would you agree that the actual number has to be



1 lower because that doesn't account for the in-flight
2 time going to these other areas where you do in-flight
3 training?

4 A. That's right.

5 Q. These numbers are then too high.
6 Would you agree with me as well ...

7 MR. ESTRIN: Which numbers?

8 MR. LEDERER: The numbers you put to
9 him, that being 42,000 movements associated with the
10 41,900 -- 4,195 hours of training time for the year
11 1986.

12 Q. Now, sir, will you also review
13 with me, if you give me a moment, page 4-5 of this
14 document. First of all, will you agree with me that
15 going back to page 4-4, this is a general discussion of
16 how numbers are calculated for these various airports
17 and the same rules appear to be applied to all the
18 airports. Do you see that?

19 A. On page 4-4.

20 Q. That's just the beginning where it
21 says "Introduction" and what follows is a discussion of
22 all the airports under discussion here?

23 A. Yes.

24 Q. Go to page 4-4, reading about
25 halfway down the page:



1 "Local movements are estimated by the
2 airport manager on the basis of aircraft
3 utilization."

4 Do you see that?

5 A. Yes.

6 Q. "For example, for every hour that
7 an aircraft is involved in flying
8 training operations, i.e., circuits and
9 touch and goes, it is estimated that
10 aircraft can perform approximately six
11 circuits, i.e., 12 movements..."

12 And do you see that?

13 A. Yes.

14 Q. Now, sir, you have already agreed
15 with me, I think, that at this Air Park in fact 12
16 would be too high a number and if you try to look at it
17 more specifically the better number is 10. Do we
18 agree?

19 A. Yes.

20 Q. To the extent that this report
21 estimates movements for 1986 based on the idea of 12,
22 its numbers will be too high. Can we agree?

23 A. I said initially I felt the
24 numbers that were in the COAAMP study were high and I
25 told everybody that. I felt they were high and then we



1 tried to justify that by looking at what we did and how
2 we did it. I felt they must have some means of
3 sampling to come up with these numbers and this is the
4 way we worked it.

5 Q. You agree with me, I think, that
6 based on what we know happens at your airport, 10, that
7 the numbers in the COAAMP study would be too high if
8 they used the number 12, would you agree?

9 A. Yes.

10 Q. "Therefore, each hour of flight
11 involving in-flight training has been
12 estimated to be the equivalent of 12
13 local movements."

14 Quite apart from doing circuits at 10, we also know the
15 COAAMP study would be too high if it fails to take into
16 account the fact that you have to fly or your training
17 pilots have to fly this greater distance to do their
18 in-flight training, and do you agree with that?

19 A. Yes.

20 Q. Another indication that the
21 numbers here would be too high; do you agree?

22 A. Yes.

23 Q. Can we also look at what is said
24 about itinerant movements:

25 "Itinerant movements were even more



1 airport register and the pilot of each
2 aircraft coming to and coming from the
3 airport is requested to sign the
4 register. However, there is no way of
5 enforcing this and many pilots do not
6 bother to sign in."

7 A. The majority of them don't.

8 Q. You have that problem?

9 A. Yes.

10 Q. "Further, in many cases, these
11 visiting aircraft pilots do not know
12 where the register is or they are
13 destined to another area of the airport
14 and again do not bother to sign in.
15 Statistics for these uncontrolled
16 airports are not as reliable as those
17 for controlled airports."

18 Now do you agree with all of that?

19 A. That is correct.

20 Q. If we go to these charts here,
21 will you agree with me that the largest majority of
22 flights, I think for both 1983, which is an actual, and
23 1986, which are forecasts, that at your airport by far
24 the larger number of movements are local movements,
25 approximately 25 per cent to 75 per cent according to



1 my very, very rough calculations?

2 A. Where do you have that
3 information?

4 Q. If you look at the charts you will
5 see what appears to be the same chart in two or three
6 places but it is the one that is on two pages because
7 of the fold-out?

8 A. All right.

9 Q. Do you have that?

10 A. Yes.

11 Q. In one case it is shown as being
12 Exhibit 4-10 to the report.

13 DR. KINGHAM: We do have that.

14 MR. LEDERER: Q. Looking at that, for
15 example, if you look at 1983 actual numbers for the
16 Burlington Air Park, the total aircraft movements, do
17 you see the 58,000 number?

18 A. Yes.

19 Q. That is made up of local aircraft
20 movements, 45,000, which you find further over on the
21 first page under 1983 actual under local aircraft
22 movements. Do you see that?

23 A. Yes.

24 Q. On the second page you see the
25 13,000 for actual movements for 1983 under itinerant



1 aircraft movements?

2 A. I do.

3 Q. That's 13 and 45 accounts for the
4 58?

5 A. Correct.

6 Q. 13 -- and I am suggesting that the
7 13 then is something which is less than or in the order
8 of 25 per cent of 58 and therefore 25 per cent
9 approximately of the actual movements in 1983 were
10 itinerant movements and the remainder were local?

11 A. That is the information in here,
12 yes.

13 Q. Looking at the forecasts for 1986
14 in the same way, here the total is 80.500 or 80,500.
15 Do you see that under the total column or the column
16 for total?

17 A. Yes.

18 Q. If you go over to local aircraft
19 movements for 1986 that is made up of 62,500 for local.
20 Do you see that? 62.5?

21 A. Right.

22 Q. If you go over the page for
23 itinerant you see the figure of 18?

24 A. Yes.

25 Q. Which is the total of 80.5 we see



1 under total aircraft movements?

2 A. Correct.

3 Q. Again the largest majority are
4 local movements, approximately 75 per cent or 62 out of
5 a total of 80 approximately?

6 A. That is correct.

7 Q. So, sir, when we look at the
8 inaccuracies attributable to local movements and the
9 comment I have made to you which you have agreed with
10 that the numbers probably are high, in fact we would be
11 making adjustments to account for that to the largest
12 majority of movements at your Air Park, would you
13 agree?

14 A. I would say some adjustments would
15 be required, yes.

16 Q. Now, quite apart from that, would
17 you agree with me that when the Board comes to consider
18 the risk of a serious air strike, one thing it will
19 want to consider is the inaccuracy in these numbers.
20 Would you agree with that?

21 A. I would say so, yes.

22 Q. Now, you said yesterday that
23 glider flights accounted for some portion of this local
24 traffic. Do you recall that?

25 A. Yes.



1 Q. If I understood you correctly, you
2 have those flights taking place on a weekend?

3 A. That is correct.

4 Q. And you said they went for nine
5 hours a day?

6 A. Eight hours or nine hours.

7 Q. Five movements an hour or five
8 flights an hour, I have just forgotten what you said?

9 A. The air cadets fly a ten minute
10 circuit, two gliders continually, one up and one down
11 and the tow plane.

12 Q. So, is that four movements every
13 ten minutes because each of the two tow planes comes up
14 and down?

15 A. One tow plane, one tug, two
16 gliders.

17 Q. That is four movements. So if I
18 understand that would be four movements every five
19 minutes, or every five minutes a plane comes down --
20 two planes come down and go up?

21 A. That's right.

22 Q. In other words, what we get is
23 every hour four times 12, because there are 12 five
24 minute segments an hour, so every hour we get 36
25 movements, is that correct. Would you agree with that



1 -- 48, I am sorry, four times 12 is 48?

2 A. Okay.

3 Q. Would you agree?

4 A. Yes.

5 Q. Then eight or nine times 12 would
6 give you the number per weekend day, do you agree; nine
7 times 48, right?

8 A. It should be accurate.

9 Q. So, check my math if you like, but
10 that would be 432 movements on a weekend day, do you
11 agree, and are you prepared to agree with me?

12 A. I will agree with you.

13 Q. You indicated this happened for
14 how many months of the year? Now, I remember there
15 were two segments of the year.

16 A. They start about the 15th of April
17 and complete their flying there at the end of June and
18 on the 1st of July they are gone.

19 Q. Two and a half months or about 10
20 weeks?

21 A. Yes.

22 Q. What about the second segment?

23 A. Again starting on the 1st of
24 August and completed by the 15th of November.

25 Q. Again the 1st of August so that's



1 August, September, October, a 14 week period, is that
2 right?

3 A. Yes.

4 Q. That's 24 weekends?

5 A. Yes.

6 Q. Or, to put it differently, 24
7 Sundays, would you agree? It is pretty simply really.

8 A. 24 Sundays?

9 Q. 24 weekends, so 24 Sundays on
10 which this is going on.

11 A. Okay.

12 Q. So 24 times 432 is 10,368
13 movements?

14 A. All right.

15 Q. We heard evidence from
16 Dr. Richardson about the fact that when the landfill is
17 closed, that depreciates the risk because the birds
18 don't go to the landfill. Do you recall that?

19 A. I do.

20 Q. You have no reason to disagree
21 with it?

22 A. I don't disagree.

23 MR. ESTRIN: He didn't quite say it that
24 way.

25 MR. LEDERER: The record will show what



1 he said.

2 MR. ESTRIN: That is not an accurate
3 reflection of what he said. He was asked specifically
4 if the birds would go on Sunday and he said indeed they
5 would. They would look around and probably see there
6 was no garbage and they might not stick around, but he
7 didn't say they would not go.

8 MR. LEDERER: Q. To the extent
9 Dr. Richardson's evidence indicates a decreased risk of
10 hazards on Sunday, you have no reason to disagree?

11 A. I agree with Mr. Estrin simply
12 because the sea gulls don't know Sunday from Saturday.

13 Q. Do you agree with
14 Dr. Richardson that when the landfill is closed and you
15 have no reason to disagree with him as the expert, that
16 there will be a decrease risk of a bird strike because
17 the birds won't tend to be in the area as much?

18 A. They still make the trip there and
19 they will make the trip back.

20 Q. Do you agree with Dr. Richardson
21 or do you disagree?

22 A. I agree with Dr. Richardson.

23 Q. To the extent there is a decreased
24 risk on Sunday, would you agree with me that the Board
25 in considering the number of movements will want to



1 consider the fact that for 10,368 of the movements,
2 there is a decreased risk.

3 MR. ESTRIN: Don't answer the question.
4 My objection is that I don't believe Dr. Richardson's
5 said there was a decreased risk on Sunday and that is
6 Mr. Lederer's assertion and an assumption in the
7 question, and an improper assertion and assumption in
8 the question given Dr. Richardson's response in
9 evidence.

10 MR. LEDERER: Q. Assume that the Board
11 is prepared to find that Dr. Richardson's evidence or
12 anybody else's evidence who ultimately comes here and
13 demonstrates and the Board accepts it, that there is a
14 decreased risk on Sunday; could you assume that for me?

15 A. I can't ...

16 Q. I am asking you to assume it.
17 That being the case, that being the case, and this
18 Board has found there is a decreased risk on Sunday,
19 and would you agree with me that one of the things they
20 will want to consider is the fact that 10,368 of these
21 movements occur in a time period when the risk is
22 decreased?

23 A. If they found there was a
24 decrease -- that the risk does decrease, then I will go
25 along with that.



1 Q. Okay. Now, could you indicate to
2 me, if you are able, the times of the day when your in-
3 flight training takes place?

4 A. It starts at 7:30 in the morning
5 and goes right on until dusk and after dark.

6 Q. Does it go continuously?

7 A. Pretty well.

8 Q. It is sort of spread out across
9 the day?

10 A. It is.

11 Q. I want you to assume that this
12 Board finds based on the evidence of Dr. Richardson or
13 somebody else that bird movements to and from the water
14 take place generally speaking, but not entirely, at the
15 beginning and at the end of the day. Okay?

16 A. Yes.

17 Q. Assuming that to be the case, will
18 you agree with me that one of the things this Board
19 will want to consider is that during the centre part of
20 the day and to the extent there are movements going on
21 during that period of the day when there are not as
22 many birds in the area, the fact that those movements
23 occur in a period of decreased risk is also something
24 the Board will want to consider?

25 A. I would say that it is a



1 reasonable amendment and I am sure they will consider
2 that.

3 Q. Yesterday you said to Mr. Tzekas
4 that approximately 7 per cent of your movements were at
5 night; do you recall that?

6 A. I think we discussed it from seven
7 to ten.

8 Q. That's fair. You said they were
9 spread out over the week?

10 A. Yes.

11 Q. Now, taking, because it is an
12 easier number to work with, but to take a lower number
13 of 7 per cent spread across the week, that is one per
14 cent of your movements per day?

15 A. Yes.

16 Q. Or 5 per cent -- actually 6 per
17 cent over the course of time when the landfill is open.
18 Would you agree?

19 A. Yes.

20 Q. Would you agree with me that to
21 the extent there aren't birds in the area at night or
22 the evidence shows there are fewer birds in the area at
23 night, the Board will also want to consider that those
24 movements occur at a time of decreased risk?

25 A. Yes. You sure blew your half



1 hour.

2 Q. I have a reputation for that,
3 Mr. Kovachik.

4 MR. LANCASTER: We were aware of that
5 last night.

6 MR. LEDERER: In my terms I am only
7 justifying my reputation.

8 MR. ESTRIN: He is on his last page.

9 MR. LEDERER : But you don't know what's
10 in the head.

11 Q. Now, sir, quite apart from the fact
12 that the glider flights take place on the weekends, you
13 also indicated to Mr. Tzekas that excluding glider
14 flights, 60 per cent of your flights were on the
15 weekends and 40 per cent were during the week?

16 MR. ESTRIN: At certain times of the
17 year.

18 THE WITNESS: At certain times.

19 MR. LEDERER: Q. "At certain times of
20 the year". During the other times of the year what is
21 the split then?

22 A. During the summer it is an even
23 split.

24 Q. So it is 50/50 during the summer
25 and 60/40 during the rest of the time; is that it?



1 A. Right.

2 Q. To the extent again that we have
3 flights on Sunday when the landfill is closed and
4 accepting or assuming the evidence demonstrates there
5 are fewer birds on Sunday because the landfill is
6 closed, would you agree with me again the Board will
7 want to consider the fact that there is a decreased
8 risk where those movements are concerned, and that is
9 another thing they will want to consider. Do you
10 agree?

11 A. I am sure they will. I can't
12 understand them going through this in this step by step
13 fashion.

14 Q. Humour me because I am not doing
15 it just for my own entertainment, believe me.

16 A. All right.

17 Q. You would agree then that that is
18 another factor the Board will want to consider?

19 A. Yes.

20 Q. Now, sir, one other matter, and I
21 concede immediately this is rather small, but I would
22 like to review it. As I understand it, and please
23 correct me if I am wrong, but gliders operate best when
24 there are thermals at work or hot air rising because
25 that carries the gliders up higher and the flights last



1 longer; is that correct?

2 A. That is correct.

3 Q. Would you agree that that
4 phenomenon tends to occur at the height of the day when
5 it is hottest and when the temperatures are highest and
6 that is when you get that phenomenon?

7 A. Generally, yes.

8 Q. So, what I am suggesting is that
9 it is preferable to do your gliding at that time of the
10 day because that is when the conditions are optimal?

11 A. What happens here is that they are
12 not gliding or not soaring, that's called soaring, what
13 you are discussing, but they are simply gliding and in
14 this case they have a limited time in the air because
15 they are flying a group of cadets every day and they
16 have limited time to fly and so they are up ten minutes
17 and they do not soar.

18 Q. That is not a factor and gliding
19 goes on -- that is not a factor, the time of day at
20 which it takes place?

21 A. Not in this case.

22 Q. You will agree with me then that
23 when the Board comes to make its decision, and I think
24 you have agreed on this, first of all they will have to
25 consider more than just the bird hazard?



1 A. Yes, they will.

2 Q. They will have to consider the
3 fact that the chance even with the landfill of a
4 serious accident is unlikely; correct?

5 A. If that's the way the experts have
6 written it, I will agree with it.

7 Q. They have to consider the fact
8 that even without the landfill there is that
9 possibility because of course we have already had bird
10 strikes at this airport?

11 A. That is correct.

12 Q. You will agree with me as well
13 that they will have to consider those factors which
14 indicate there are movements in periods when the risk
15 is not as great as at other times in the day and you
16 have agreed with all of that?

17 A. Yes.

18 Q. Finally, will you agree with me as
19 well that they will have to consider the potential for
20 mitigative measures if some problem does occur?

21 A. I agree that they will.

22 Q. And there are mitigative measures
23 which are available to lower the chance of these types
24 of strikes occurring?

25 A. There are.



1 MR. LEDERER: Thank you, those are all
2 my questions, Mr. Chairman.

3 DR. KINGHAM: Can you help me
4 understand the numbers, as we have heard an awful lot
5 of numbers?

6 THE WITNESS: I will try.

7 DR. KINGHAM: These numbers can
8 sometimes be confusing to me. You told us in response
9 to Mr. Lederer's question, there were 48 glider
10 movements per hour?

11 MR. LEDERER: Excuse me, but there is
12 something I should have asked Mr. Kovachik and I
13 forgot, but before you go any further, and it is
14 totally unrelated to what you are touching on, but I
15 have been reminded. I apologize.

16 Q. I wanted to get a little bit
17 better idea of what the potential is for expansion at
18 this site and so I had somebody help me with that and I
19 would just ask you to confirm. This is an air
20 photograph which shows the boundaries -- it is air
21 photograph, would you agree, which includes within its
22 boundaries the Burlington Air Park

23 A. That's correct.

24 Q. Somebody has helped me by putting
25 in in red their understanding of the present boundaries



1

of the Air Park?

2

A. Yes.

3

4

Q. Can you confirm that that's an accurate depiction of those boundaries?

5

A. Yes.

6

7

8

9

10

Q. Just to look at it carefully the situation is such that if you look at the north-south runway it moves from the south boundary of the site to the north boundary of the site?

11

A. That is correct.

12

13

14

Q. There is no room to lengthen that runway without going on to property which you don't presently own?

15

A. That is correct.

16

17

18

19

Q. If we take the east-west crossing, the shorter runway, it runs directly from the western boundary in a southeasterly direction to the corner of the site?

20

A. That is correct.

21

22

23

Q. Again there is no ability to extend that runway without purchasing property beyond it?

24

A. That is correct.

25

Q. And will you agree with me then, sir, that to extend your runways you will have to buy



1 more property?

2 A. Yes.

3 Q. Yesterday you raised with me the
4 matter of the legal interpretation of what happens if
5 you buy more land and we can leave that for argument,
6 but all I want to do is confirm that you are restricted
7 and you can't have your runways grow without more land?

8 A. That is correct.

9 MR. LEDERER: Thank you, sir. Could
10 that be exhibited as well?

11 MR. LANCASTER: H-423.

12

13 ---EXHIBIT NO. H-423: Aerial Photograph showing
14 Burlington Air Park boundaries

15 MR. LEDERER: H-433?

16 MR. LANCASTER: H-423.

17 DR. KINGHAM: I was just trying to get
18 the numbers straight. Did you tell Mr. Lederer there
19 would be 48 glider movements per hour or is that what
20 it was computed to.

21 THE WITNESS: That is what we computed
22 it to.

23 DR. KINGHAM: You told the Board that in
24 the summer about half of your other traffic is on
25 weekends, Saturdays and Sundays, and half during the



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Kovachik, cr ex
(Lederer)

1 week?

2 THE WITNESS: It is evenly split.

3 DR. KINGHAM: So you have many other
4 flights coming in on Saturdays and Sundays when you
5 have gliders coming in?

6 THE WITNESS: That's right.

7 DR. KINGHAM: Your two runways cross one
8 another?

9 THE WITNESS: They do.

10 DR. KINGHAM: Does that mean you have
11 got more than 60 movements per hour then on a Saturday
12 or Sunday?

13 THE WITNESS: Yes.

14 DR. KINGHAM: Throughout the day?

15 THE WITNESS: Yes.

16 DR. KINGHAM: There is a plane landing
17 or taking off every few seconds or less than a minute?

18 THE WITNESS: I will show you how it
19 works. You will see the paved runway is paralleled by
20 a grass runway and can I indicate -- is that indicated
21 there clearly? The air cadet's gliders use the grass
22 runway and the power planes use the pavement. Do you
23 see this?

24 DR. KINGHAM: Yes.

25 THE WITNESS: If you look in here you



1 will see the air cadet aircraft and gliders are tiny
2 little things, but that is where they park them and
3 that's the way they work it. The air cadets -- the
4 whole thing is on radio and the power pilot says what
5 he is doing, he is landing 3-2 and the air cadet says he
6 is doing a short final left, base landing on the grass,
7 and this is the way the communications are going on on
8 the radio continually. So, one lands on the grass and
9 the other lands on the pavement.

10 DR. KINGHAM: You have powered aircraft
11 that are tug planes and you have gliders which are
12 unpowered and you have itinerant flyers coming in to
13 land on the weekends, and they are all doing this at a
14 rate of more than one a minute side by side in the same
15 air space. How risky is that in your view? How risky
16 is that compared to bird problems?

17 THE WITNESS: From a bird problem...?

18 DR. KINGHAM: That is a risk, is it not?

19 THE WITNESS: Yes.

20 DR. KINGHAM: Different kinds of
21 aircraft and some subject to wind and so on.

22 THE WITNESS: Right.

23 DR. KINGHAM: Is that a very risky
24 thing?

25 THE WITNESS: It doesn't seem to be



1 because the same thing occurs at various other airports
2 and air cadets do the same thing in other places and it
3 is something they are doing here too. At the Muskoka
4 airport the same thing is done there. They work the
5 grass while the power works the pavement.

6 DR. KINGHAM: When we look ahead towards
7 the year 2000, if Site D were going to be a landfill,
8 it would be a 20-year landfill and the year 2000
9 conveniently comes in about the middle of that, and
10 according to this report which Transport Canada did, it
11 tells us that with all the uncertainties in the
12 projection, we are looking at 113,000 movements a year
13 which is about a third of what Pearson International
14 would be handling in the same year?

15 THE WITNESS: Yes.

16 DR. KINGHAM: Which seems to work out to
17 on an average every 10 hour day throughout the year,
18 365 days a year, the average would be more than a
19 takeoff or landing every two minutes. Are you
20 anticipating this airport will be that busy?

21 THE WITNESS: It could be, yes. My
22 thoughts are projecting this into the future that
23 should it become that busy then the gliders, we will
24 have to stop the glider activity. Should it get much
25 busier than we are doing right now we will have to look



1 at glider activity and if it gets to a point -- if we
2 feel it is risky ...

3 DR. KINGHAM: There are other factors,
4 there are your own personal factors which you would put
5 into these projections which would make them less
6 frightening.

7 THE WITNESS: Oh yes, definitely.

8 DR. KINGHAM: Thank you.

9 MR. LANCASTER: Could you explain
10 briefly the glider operation, the circuiting, and you
11 mentioned soaring, but this is gliding.

12 THE WITNESS: The gliding, the reason
13 they glide in this case is because they have a limited
14 time per unit to stay in the air. So the tug will pick
15 up and normally it works from about halfway in the
16 field, and I will explain just about what happens.
17 Firstly, they work that quadrant of the airport. They
18 work the western side of the runway and the power works
19 the east side of the runway.

20 So, the tug will pick up his glider and
21 the air cadets push the glider backward to wherever
22 they start from, usually about mid-field, and the tug
23 picks them up and takes them off and flies them and
24 kind of wobbles around here because we are trying to
25 spread the noise around and drops him wherever he has



1 got some lift and immediately comes right back down and
2 lands and the second glider is already in position. He
3 hooks up on to that one and he starts up and by that
4 time this glider has already started downwind and gone
5 on base and as soon as he is gone or shortly after he
6 is gone then he lands. They change the crew and they
7 change the passenger and he has completed whatever he
8 has done and he comes right back down again and lands
9 beside it and there is a 200-foot rope and one of the
10 air cadets picks up the rope as it is rolling, as it is
11 being dragged along the grass, and he picks it up with
12 a sort of cane and he just holds it in line so he can
13 pull it up to the nose of the glider and there is a
14 manual release hook on there and he clips it on and as
15 soon as everybody is in there he gives them the go
16 signal and as soon as they tighten up they can go and
17 away they go again.

18 MR. LANCASTER: Where is the tow plane
19 at this time?

20 THE WITNESS: The tow plane is 200 feet
21 ahead of the glider on a rope, on the grass.

22 DR. KINGHAM: That reminds me of one
23 final question from me. Do people take flying lessons
24 on weekends as well?

25 THE WITNESS: Yes.



1 DR. KINGHAM: You have itinerant flyers,
2 tow planes, gliders and student pilots taking off and
3 landing side by side on grass and pavement at intervals
4 of less than a minute?

5 THE WITNESS: It is rare they are
6 landing side by side because it is pretty nearly always
7 spaced where somebody is down and the other one is on
8 the grass or wherever he is and he will land, but there
9 are occasions where they are almost side by side, but
10 normally it is spaced out so that while one is touching
11 down the other fellow is back and he is 150 or 200
12 feet -- I would say 150 feet over on the grass.

13 DR. KINGHAM: I guess the question we
14 are wrestling with is you are more concerned about
15 potential bird strikes than you are about difficulties
16 arising from all of this simultaneous activity. Is
17 that why you are here?

18 THE WITNESS: That is correct. This
19 stuff seems to be fairly well controlled and everyone
20 is on radio and it is well controlled.

21 MR. LANCASTER: Doing it is simpler than
22 explaining it?

23 THE WITNESS: Yes, it is. The air
24 cadets are fairly precise people I would say.

25 THE WITNESS: Mr. Estrin?



1 MR. ESTRIN: I will have some re-
2 examination but I wonder if we could take our break and
3 do it right after and then go into our next witness.

4 MR. LANCASTER: All right.

5 ---Recess

6 MR. LANCASTER: Thank you, please be
7 seated. Mr. Estrin.

8 RE-EXAMINATION BY MR. ESTRIN:

9 Q. One of the matters raised by
10 Mr. Tzekas yesterday was the cost of construction of
11 new facilities at your Air Park and he asked you
12 essentially, or he suggested there were some Department
13 of Transport estimates for construction of some of the
14 things you had in mind and you expressed the view that
15 their costs were too high. I have a note you could do
16 it for about one-third of their costs. On what basis
17 did you say that? What have you previously done
18 yourself?

19 A. We have put in the main runway at
20 this point and we have put in the tarmac, the paving in
21 front of the school and the taxiways, and based on that
22 I have a pretty fair idea of what the costs are and we
23 used a process on our runway which was put in by Miller
24 Paving, which is not a standard process and it is
25 considerably cheaper and much more durable, and the



1 part of the Department of Transport study at that time
2 involved looking at our runway and the same system will
3 be put in at Moosonee and some of the northern bases.
4 So, I know what my costs would be.

5 Q. Just to clarify another matter he
6 raised with you, he asked you if you expanded to 3800
7 feet what kind of aircraft would be attracted and you
8 said you got a lot of calls or requests with respect to
9 light corporate twins, and you mentioned a couple of
10 kinds of planes, a Citation and Beechcraft. Are they
11 turbo or jets?

12 A. A Beech is a turbo and a Citation
13 is a jet.

14 Q. Does Beech have a jet?

15 A. Not at this point. I believe
16 Beech are all turboprop or piston and they are coming
17 up with a super duper airplane which isn't out yet.

18 Q. Another matter -- no, that is all
19 on that.

20 Mr. Tzekas raised the issue with you of
21 if there was no IFR at the Air Park whether that would
22 make your facility unattractive or unreliable in terms
23 of business commercial activity and the response was
24 no, and I wanted to ask you why you said that?

25 A. The IFR portion of airports our



1 size and including Toronto Island, Buttonville and
2 Hamilton, is a rather small portion of total flying and
3 maybe at our place there are maybe only eight days a
4 year where you would be totally locked in or out, as
5 the case may be, from a fly in or fly out point of
6 view. So, it is a fairly small percentage.

7 Q. Is there such a thing as limited
8 IFR as opposed to going wholly IFR?

9 A. Yes. Some of the airports; I
10 believe Midland has it, Buttonville, and you get your
11 only private non-directional beacon on the airport
12 which the aircraft use to home in on and in our case we
13 have the Ash beacon up on the hill which is also an aid
14 and they can do a circling approach which amounts to
15 clouds and they are in the cloud -- they break down
16 through the clouds and if they get down through to 900
17 feet and can't see anything, then they go away and if
18 they break through the clouds then they carry on and do
19 their landing. This is not a precision IFR approach at
20 all.

21 Q. I want to make sure I understood
22 what you said. Are you saying there is a beacon in the
23 vicinity now which is of some assistance?

24 A. Yes, the Ash beacon, A-s-h.

25 Q. Is that a location?



1 A. It is a locator, a non-directional
2 beacon installed by the Ministry many years ago when
3 ADF was the prime way of finding your way from one
4 place to another, like the visual omni range and it is
5 still there.

6 Q. Where is that?

7 A. I will see if I can find it. It
8 is on Cedar Springs Road and about No. 1 Sideroad. I
9 can't see it indicated, but it is about here.

10 MR. LANCASTER: Could you make a mark
11 whereabouts you think it is?

12 THE WITNESS: I would say it is in about
13 this area.

14 MR. ESTRIN: Q. You are making a purple
15 circle on H-274 at about the intersection of Cedar
16 Springs Road and No. 1 Sideroad?

17 A. That's right.

18 Q. So we understand you, is that
19 beacon in your experience of assistance in terms of
20 instrument rules or of assistance when vision is
21 obstructed?

22 A. Yes.

23 Q. In addition to that beacon which
24 already exists, what ability do you have to go to
25 limited IFR machinery or equipment on your own premises



1 or in close proximity?

2 A. Discussing it with the Ministry of
3 Transport airways people quite a few years ago
4 regarding what they call our own private beacon, which
5 is a very low output radio beacon which would be
6 installed on the airport as an identifier, again a
7 circling approach and breaking down to about circuit
8 height, the same as Buttonville do right now, and if
9 they don't see something, if they can't visually pick
10 up the ground, then they go to where they have
11 precision equipment.

12 Q. Is that something you would put
13 in?

14 A. No, we would put it in ourselves
15 and we have inquired about it and we can put it in.

16 Q. Then Mr. Tzekas raised the issue
17 about how you arrange for the financing of your hangars
18 and one way was something you called land leases and
19 you said something about the hangars being pre-sold?

20 A. Yes.

21 Q. Why is that? Is there a demand?

22 A. Yes, there is.

23 Q. Can you tell us about that?

24 A. Well, with the difficulty getting
25 into the Island Airport, what I found just recently



1 from a security point of view and from just plain
2 travelling and parking, some of the people require
3 hangarage for some of the more expensive, say, their
4 \$100,000 or \$200,000 aircraft, and we can provide it,
5 so they will make an agreement and we will lease them
6 the land and the hangar is built for them on that piece
7 of property so they have a 10-year land lease.

8 Q. Another question or topic raised
9 with you was the subject of mitigation measures and the
10 costs of them and you made a statement to Mr. Tzekas
11 that you understood that falconry, if I have my notes
12 right, your understanding is it costs about \$60,000 a
13 year for one or two falcons. I guess my question
14 arising from that is if the Region provided the money
15 for that and a man with a shotgun, because I think that
16 was something else Mr. Tzekas suggested, would you
17 still have concerns or not with regard to the proposal?

18 A. I would still have concerns but it
19 certainly would help. We are going to go with the
20 experts here as far as I am concerned and wherever they
21 decide they are going with it...

22 Q. If it goes any mitigation is
23 positive?

24 A. Yes.

25 Q. Now, Mr. Tzekas asked you whether



1 Dr. Solman was one of a number of consultants who came
2 to see you?

3 A. Yes.

4 Q. You recall Mr. Hays who he also
5 mentioned?

6 A. Yes.

7 Q. He identified he was working for
8 Burlington?

9 A. Yes.

10 Q. Do you recall anybody else? He
11 mentioned a Mr. McNaughton and you didn't seem to have
12 any recollection of Mr. McNaughton?

13 A. He may have talked to someone
14 else.

15 Q. Aside from Dr. Solman and Mr.
16 Hays, do you recall any other person coming to talk to
17 you about this matter and saying they were acting on
18 behalf of the City of Burlington?

19 A. There was a lady who came in very
20 briefly and asked a few questions some time ago.

21 Q. Do you know for whom she was
22 acting and whether it was Burlington or the Region?

23 A. I think she said -- I don't
24 believe, and I wasn't that interested -- but I think
25 she said it was landfill she was discussing at the



1 time.

2 Q. There was a Linda Hellas whose
3 study was referred to a few moments ago and she is not
4 in the room today, but do you recognize that name at
5 all?

6 A. I thought the lady's name was
7 Marilyn something.

8 Q. I think this was still Mr. Tzekas,
9 but he raised with you the fact that from one of the
10 Ministry of Transport documents that characterizes a
11 utility airport as opposed to a commercial corporate
12 airport and I guess the question I have arising from
13 that is if you did in fact extend the runway to 3800
14 feet, what kind of market do you feel you would be
15 adding to the facility?

16 A. We would add similar to what they
17 did at Buttonville and actually with less runway than
18 that we could add to what has happened at Buttonville
19 and it is definitely conceivable that could happen. I
20 don't know if you are familiar with that area or that
21 airport...

22 Q. I am not sure what you mean. What
23 do you mean?

24 A. It is quite an active airport and
25 it does handle a lot of small corporate aircraft.



1 Q. Do you know what the length of
2 their runway is?

3 A. I have a feeling it is around 3400
4 feet, but it is in the supplement, if someone has one
5 here.

6 Q. The NOTAM?

7 A. The little grey book and I don't
8 have it with me. I don't have one.

9 Q. Perhaps we could get that from
10 someone?

11 A. Yes.

12 Q. You were asked about business jets
13 and you said you remembered when Buttonville was grass
14 and the same could apply to Burlington Air Park, and
15 this was in response to Mr. Tzekas, and you said the
16 potential, the potential to expand to 3800 feet has
17 been there for a few years. I guess what I want to ask
18 you is what do you want the Board to understand and how
19 theoretical is that potential? Is it theoretical or
20 should the Board understand it is simply something you
21 have thought about and are still thinking about or is
22 it something you would like the Board to understand is
23 more likely to come about than not if everything goes
24 according to plan?

25 A. If everything goes according to



1 plan I would certainly like to expand it. Like
2 everybody else the amount of money I have to spend and
3 the amount of money I can raise to do it will be the
4 limiting factor.

5 Q. And there was a letter that was
6 put in by Mr. Tzekas, your letter of February 16, 1983,
7 and do you have a copy of that there?

8 A. Yes.

9 Q. Exhibit B-422. I wanted to direct
10 your attention to the third paragraph of that letter
11 where you say:

12 "Burlington Air Park is now the home to
13 some 95 aircraft, a flying school and
14 air cadet training centre. Our field is
15 used by many of the industries in Halton
16 for business purposes and I am advised
17 by the Chamber of Commerce and Halton
18 Industrial Promotion Department that we
19 help in attracting industry and commerce
20 to the area."

21 I would like to ask you about that. What information
22 or what discussions have you had with or been advised
23 by the Chambers of Commerce or the Halton Industrial
24 Promotion Program?

25 A. The Chamber of Commerce, and I



1 think the lady is Mary Gillan for Burlington, who
2 requested as much information as she could get for
3 Burlington's brochures that go out to industries they
4 are trying to attract wherever it happens to be from,
5 and also the same information, and I don't recall who
6 it was for Halton was issued.

7 Q. Those are my questions from
8 Mr. Tzekas' cross-examination and now coming to
9 Mr. Lederer's.

10 He raised with you the issue of what you
11 understood a legal non-conforming use was and the issue
12 of whether or not you would need planning changes in
13 order to expand the airport to other property and he
14 asked you whether you had contacted planning
15 authorities and you said no. Then you at some point
16 in that discussion said it was your impression that you
17 perhaps did not need any planning permission, even
18 though that might not be what most people might think,
19 because of certain law cases and constitutional
20 decisions, specifically you mentioned a case involving
21 Orangeville Airport.

22 MR. LEDERER: Just a second. This is a
23 matter of law. You will recall I did not progress any
24 further with it when it was raised. It is a matter for
25 argument.



1 MR. LANCASTER: I think it is.

2 MR. LEDERER: It is inappropriate to put
3 a legal case to the witness. There are questions of
4 law that are raised and it has been some time since I
5 have reviewed this case, although I was aware of it in
6 the past, and there are issues to deal with, with
7 whether it is federally-owned lands only that is
8 involved and there is a case involving the Hamilton
9 Harbour Commission dealing with the Ontario Municipal
10 Board's authority to deal with harbourlands having
11 regard to the fact that harbours are federal, and this
12 is not a simple matter.

13 I have no idea of the interpretation
14 placed upon it by Mr. Kovachik and whether it is
15 correct, but whether it is correct or otherwise it is a
16 matter of law which will have to be argued at the end
17 of the day. You can't put a legal case to this man
18 because it is simply not appropriate and it is what
19 lawyers would do.

20 MR. ESTRIN: First of all I was going to
21 ask him to identify the case and he is just pulling
22 something out of his file.

23 Q. Do you have that case in your
24 material?

25 A. I have. It was given to me by the



1 Ministry of Transport a few years ago.

2 Q. Can I see that case?

3 MR. LANCASTER: He can identify that
4 for future argument.

5 MR. ESTRIN: He has produced a decision
6 of the Ontario Court of Appeal, a decision of Justices
7 Brooke, MacKinnon and Zuber released December 19, 1975
8 and the style is Orangeville Airport Limited and the
9 Corporation of the Town of Caledon and the Attorney
10 General of the Province of Ontario and could you tell
11 me how you got that decision?

12 A. Well ...

13 Q. To the best of your recollection?

14 A. The way I received this was that I
15 had -- when I started putting hangars up or attempting
16 to put buildings up at the airport, I was stymied by
17 the Building Department of Burlington and I really
18 don't know how far they were going with it, but it
19 seemed there were rules and regulations and on and on
20 and on and it got to the point where I couldn't get
21 anyplace, so I happened to mention this to an airways
22 inspector, Don Gibson, and he said they don't really
23 have any jurisdiction over building on an airport and
24 so it is something I had no idea about.

25 MR. LEDERER: We are now interpreting



1 the law. Just in what this man has said to this point
2 there is a distinction between building on an existing
3 airport and expanding on to lands which have been dealt
4 with by the planning policies of the area municipality.

5 MR. LANCASTER: The Board is aware of
6 that.

7 MR. LEDERER: I am simply trying to
8 remake my point and I need not make it again, I
9 apologize, but this is not proper and I ask it be
10 stopped.

11 MR. LANCASTER: We are getting his
12 ideas.

13 THE WITNESS: The way I understood this
14 thing was that anything that was on the airport or
15 adjoining the airport required to support itself would
16 be dealt with in the same way, and that's the way I
17 understood it.

18 MR. LANCASTER: I don't think it's quite
19 as simple as that.

20 THE WITNESS: Probably not, but I know
21 nothing about law and that is what I was working from.

22 MR. LANCASTER: I think we can leave
23 that.

24 MR. ESTRIN: Yes.

25 THE WITNESS: I do believe in the laws



1 and the way they are interpreting and I believe when
2 we -- I just wanted to make one point. When we got
3 into building I was told I didn't need building permits
4 and I went to the city and I asked for building
5 permits and asked for an inspector to come out to keep
6 this thing correct and I don't believe in going the
7 route I was told I could go. So, I certainly intend to
8 stay within the rules and the law.

9 MR. ESTRIN: Mr. Chairman, we don't make
10 decisions exhibits and so there is no point in doing it
11 now, but I want to confirm, since I have given
12 Mr. Lederer a copy of the reported decision, at least
13 we agree this is the same one, and I won't make it an
14 exhibit and I will give him a chance to do that and the
15 reported decision I gave you was 11 OR (2d) 546; 1976
16 11 OR (2d) 546.

17 MR. LEDERER: I can confirm it is the
18 same.

19 MR. ESTRIN: Then I will give it back to
20 Mr. Kovachik.

21 THE WITNESS: I brought that out to say
22 that was the basis I was working from, but I may be
23 totally wrong.

24 MR. ESTRIN: I can prove you were
25 totally right.



1 MR. LEDERER: I believe there has been a
2 complete overhaul of the Aeronautics Act since this
3 case and I have no idea if that affects the situation
4 or not, but that has happened.

5 MR. ESTRIN: Now, we come to Mr.
6 Tidball's questions.

7 Q. One of his questions was are you
8 prepared to allow regional representatives to have
9 access to your property to take mitigation measures and
10 you said, yes, and the question I have is has there
11 been any statement or indication from the regional
12 officials to you that they are in fact prepared to take
13 mitigation measures on your property?

14 A. None.

15 Q. Prior to Mr. Tidball from the
16 Ministry of the Environment asking about it, has any
17 regional official asked you if you were prepared to co-
18 operate with them in those kinds of measures?

19 A. None.

20 Q. Mr. Lederer raised with you the
21 issue of risk and the issue if the landfill is in
22 place -- he stated the issue is with the landfill in
23 place is the risk acceptable and he also suggested to
24 you that if Site D was approved one of the things you
25 would have to do is adapt and I think you said well



1 perhaps that was correct.

2 I want to ask you is adapting or is
3 adapting to that landfill and any risk it might create,
4 is that what your concern is, adapting?

5 A. If this was to pass I would do the
6 best I could with it and I would attempt to adapt to
7 the best of my ability or with whatever assistance I
8 would require or would be given to me.

9 Q. What do you want the Board to
10 understand; is adaption of the added risk something
11 that is your preference or not?

12 A. It is not my preference.

13 Q. Mr. Lederer suggested to you that
14 you had only written two letters and nothing since 1984
15 and that that should be somehow taken as a measure of
16 your lack of concern about this issue. First of all,
17 did you ever get a reply from the Region to either of
18 those letters?

19 A. No.

20 Q. Should the fact you have not
21 written a letter to the Region since 1984 be taken as a
22 measure of your concern?

23 A. It should not be taken as a
24 measure of my lack of concern.

25 Q. Mr. Lederer raised with you some



1 mitigation measures that are in a regional report
2 written by a witness previous to today by the name of
3 Linda Hellas. Did Linda Hellas come to discuss her
4 theoretical mitigation measures with you?

5 A. I would say no. I don't recall
6 talking to her.

7 Q. I want to show you the document in
8 which Miss Hellas' discussion about birds is contained,
9 entitled "Biophysical Analysis". If I hadn't mentioned
10 birds, what do you understand by "Biophysical"? Does
11 it mean birds to you or not?

12 A. No it doesn't.

13 Q. Another thing Mr. Lederer raised
14 was he discussed Exhibit M-412, the hours, the hours of
15 flying on the chart, but I just want to clarify, are
16 glider hours referred to in those hours or not, or only
17 powered aircraft?

18 A. I believe only powered aircraft
19 and we are talking about ...

20 Q. Your chart?

21 A. No, gliders are not represented.

22 MR. ESTRIN: Those are all my questions,
23 thank you. Thank you very much.

24 MR. LANCASTER: Thank you.

25 THE WITNESS: Thank you very much.



1 MR. ESTRIN: Subject to Mr. Lederer
2 having an opportunity to examine the financial
3 statements.

4 THE WITNESS: I would like to say thanks
5 very much gentlemen and ladies and I hope I was an
6 acceptable witness. I did everything to the best of my
7 ability.

8 MR. LANCASTER: That is all you can do.

9 DR. KINGHAM: I wonder if before you
10 call your next witness, Mr. Lederer, on or about the
11 29th of October when we first saw this map, it struck
12 us as being a very clean portrayal from this distance
13 of all of the issues at play, the locations of the
14 various sites and location of the waterfront urban
15 areas and the escarpment. I think we asked Mr. Hodgson
16 at the time if a map like that could be produced as a
17 sort of simple line diagram showing those major
18 features, the highways, escarpment, the six sites, and
19 perhaps the major roads and without all of the minute
20 detail which appears on many of these exhibits because
21 we thought it might be useful to show the lay of the
22 land in our final report. I am just reminding you of
23 that request and I don't know if anything has been
24 done.

25 MR. LEDERER: I was not personally aware



1 of it, but I will double-check it. Before Mr. Estrin
2 calls his next witness, and perhaps it is more suitable
3 to refer to it in this kind of break rather than at the
4 lunch break, but Mr. Leitch in his argument yesterday
5 concerning sitting on Fridays raised a point, and I may
6 be wrong on the point but I just wanted to take it a
7 bit further, but he indicated that after all the Region
8 had received some funding from the Ministry of the
9 Environment and there were some implications to be
10 drawn from that.

11 I wanted to tell you that while that is
12 true the amount of the subsidy is unknown to the extent
13 it has been directed at any purpose to this point,
14 three-quarters of it will be applied to moderate the
15 tipping fee during the export period, the period we are
16 now awaiting the decision, and the remainder is being
17 applied to reduce the future debenture requirements
18 associated with Mr. Rinaldo's evidence. It is not
19 money coming to help conduct the hearings, but money
20 being used to benefit the Region's responsibility and
21 therefore I didn't want any misunderstanding as to what
22 that money was, or more importantly, how it was being
23 employed by the Region of Halton.

24 MR. ESTRIN: Mr. McDonald, please.

25 WILLIAM PAUL McDONALD (Sworn):



1 DR. KINGHAM: State your full name,
2 please.

3 THE WITNESS: William Paul McDonald.

4 EXAMINATION IN CHIEF BY MR. ESTRIN:

5 MR. ESTRIN: Mr. McDonald's witness
6 statement has been marked and I am handing to you a
7 curriculum vitae as well as a copy of an article
8 written on this topic and I would ask the curriculum
9 vitae and the article associated with it be marked as
10 the next two exhibits.

11 MR. LANCASTER: The curriculum vitae
12 will be M-424 and the article we will mark as M-425.

13 ---EXHIBIT NO. M-424: Curriculum Vitae of
14 W. P. McDonald

15 ---EXHIBIT NO. M-425: Article from ICAO
16 Bulletin of October, 1987

17 MR. ESTRIN: Q. You obtained a Bachelor
18 of Environmental Studies in the Honours degree program
19 from the University of Waterloo in 1975?

20 A. I have.

21 Q. In that year you joined Transport
22 Canada, the Airport Facilities Branch as an
23 Environmental Officer?

24 A. Yes.

25 Q. Since 1975 you have been working



1 for Transport Canada?

2 A. I have.

3 Q. And you have been concentrating in
4 the area of environmental matters?

5 A. Yes.

6 Q. If we look at your curriculum
7 vitae, we see two items under the heading "Current
8 Responsibilities" and do you have a copy of it?
9 Perhaps you could tell us about those two particular
10 responsibilities in a general way?

11 A. I had responsibility for the
12 national program of airport wildlife control at
13 Canadian airports, which includes programs to control
14 both birds and mammals on airports that constitute a
15 hazard to aircraft operating on the airport or airport
16 facilities themselves.

17 Some birds by their nature are a hazard
18 to the operation of aircraft either on the airport or
19 in the vicinity of the airport, and other birds by
20 their nature may be a hazard to the facilities or
21 aircraft that may not be operating but may be parked at
22 the airport.

23 These damages to airport facilities from
24 birds and also mammals, which is an issue aside from
25 this, and perhaps first I can discuss the mammal



1 .problem.

2 Q. All I am really asking you to do
3 at the moment is give us a general indication of why --
4 what your responsibilities are in connection with the
5 program?

6 A. My responsibility is to oversee
7 the implementation of the wildlife control program at
8 Transport Canada airports and other airports in Canada.

9 Q. Included within wildlife are
10 birds?

11 A. Are birds and mammals, yes.

12 Q. How long have you been or had
13 those responsibilities or been involved with that
14 program?

15 A. I have been involved with that
16 program since 1975.

17 Q. Does that responsibility include
18 only Transport Canada Airports?

19 A. No, it also includes the
20 application of our standards and guidelines and also
21 the implementation of control programs at other
22 airports not owned by Transport Canada. We do not have
23 regulatory authority over them in the wildlife control
24 area, but we have been asked for assistance by
25 provincial and private airports and municipal airports



1 on wildlife control matters and we do provide this
2 assistance.

3 Q. I will still keep it for the
4 moment to your personal experience and
5 responsibilities. Listed on your curriculum vitae are
6 major accomplishments in the area of wildlife control.
7 First of all, you have referenced the manual of airport
8 bird hazard control and the manual of airport mammal
9 control. The manual of airport bird hazard control is
10 one of the documents included in your witness
11 statement, is it not?

12 A. Yes, it is.

13 Q. That is at Tab 6 of your witness
14 statement, Exhibit M-394. What has been your role in
15 the development of that document?

16 A. I was responsible for accumulation
17 of the information that in this document and the
18 writing of the document up to publication. I took
19 information presently available and discussed this
20 information with people in headquarters, regions and at
21 the sites to determine what parts of existing
22 documentation and new research that had been undertaken
23 were relevant to the program we were operating in
24 Canada now, and wrote this manual based on the
25 information we felt fell within the direction we were



1 given by senior management on the production of
2 standards and guidelines applied specifically to bird
3 control in Canada at Canadian airports.

4 Q. Did this manual have to be
5 approved by anyone?

6 A. Yes, it is. It is approved by the
7 assistant administrator, airports and construction, the
8 ADM level in transport.

9 Q. Associate Deputy Minister?

10 A. Yes.

11 Q. Have you -- let's go -- I am not
12 sure whether we need say more about mammal control. Is
13 it relevant here?

14 A. It is relevant in the fact that
15 this whole wildlife issue is not strictly related to
16 birds and it is much wider in scope than just birds and
17 that is why I was saying previously that mammals do
18 cause a strike hazard and we have hit deer, fox, we
19 have ingested rabbits in the engines of 737's, but
20 aside from that, mammals also represent quite a
21 considerable hazard to facilities, such as buildings,
22 runway lighting, other underground facilities,
23 including electrical and water facilities, fencing,
24 major drainage projects are all impacted by mammals.

25 They represent a hazard to facilities as



1 well as aircraft operations.

2 Q. Now, if we turn to the second page
3 of your curriculum vitae I wanted to ask you about some
4 of the matters there. The first is development of the
5 training package "Introduction to Airpark Wildlife
6 Control" for presentation to airport staff at the site
7 and this package has been presented at most Transport
8 Canada airports as well as at regional and national
9 seminars. What has your role been in developing that
10 training package and what does it train people to deal
11 with?

12 A. I was responsible for the initial
13 development of that training package and developed it,
14 the initial package I suppose I developed myself and
15 implemented and then it was revised in co-operation
16 with a consulting firm. That package is aimed at
17 instructing people on the airport on how to operate a
18 proper wildlife control program, methods of control
19 activities including the use of shotguns, shell
20 crackers, gas cannons, other methods of control, both
21 static and operational I guess, and it also is intended
22 to motivate them to report bird strikes and operate an
23 active control program at the airport.

24 Q. Whenever we see wildlife in this
25 CV we should understand that that includes birds?



1 A. Yes.

2 Q. How long have you been presenting
3 these training programs?

4 A. I would say since 1977.

5 Q. What is the difference between the
6 training package in the first paragraph and the one in
7 the second paragraph?

8 A. The one in the second paragraph is
9 a national workshop and the first training package was
10 a half-day training package which is conducted in
11 conjunction with a visit to the site at which time we
12 do a technical evaluation of the site and its
13 attractiveness to birds.

14 In the second one, it is a one-week long
15 training package that we developed in response to a
16 direct need to train wildlife control co-ordinators at
17 the site. One of the important things about any bird
18 control program is that one person oversee it because,
19 we as we have seen illustrated here today, bird strikes
20 can be observed or reported by one person on an
21 airport, but if there is not a central focus on the
22 airport to have everything go through, then you get the
23 odd sporadic person spread around who is aware of
24 strikes and some of these strikes may happen over a
25 short period of time and at Transport Canada airports,



1 for instance, if the firefighters were responsible for
2 strike reporting, then Fred may get a strike and Joe
3 may get a strike on the same shift on the phone but not
4 report them and then they change shifts and another
5 shift comes on and they may be aware of another strike
6 or two in the same day, and this in fact has happened.

7 Without having a wildlife control co-
8 ordinator on the airport where all the activities of
9 the control program are reported through him, you
10 cannot begin to understand the magnitude of the
11 problem. This one-week training course is aimed at
12 instructing and training wildlife control co-ordinators
13 on the actual operation of wildlife control programs,
14 the requirement to report both bird strikes and control
15 activities at the airport. It teaches them some of the
16 biological aspects of bird behaviour and control so
17 they can understand and develop their own control
18 programs or some of the basic control techniques. It
19 also outlines some of the legal ramifications of
20 operating the bird control program. It include two
21 field visits and one of them is on bird identification
22 and one on operation of the control program at an
23 airport.

24 It is operated across the country and
25 this is the fourth year we will be holding it in



1 Fredericton this year, and it is open to people from
2 both Transport Canada and National Defence Airports.
3 We train 25 people a year on this course.

4 Q. All right. The fourth paragraph
5 refers to a film "Stop Bird Strikes" and we will come
6 back to that in a moment. Let's go to the fifth
7 paragraph, re-organization of the Canadian bird strike
8 reporting program. This effort resulted in an
9 increase, et cetera. Just tell us very quickly without
10 getting into the details what your role has been with
11 regard to reporting of bird strikes and the statistics
12 with regard to bird strikes?

13 A. Right now I oversee the reporting
14 of all bird strikes in Canada and I guess I co-ordinate
15 and assist in the analysis of the information received
16 on all bird strikes. I have also been involved in the
17 re-organization and re-development of the ICAO, the
18 International Civil Aviation Organization bird strike
19 reporting system. They rely heavily on the assistance
20 of Canada, the United States and the U.K. and France in
21 the development and implementation of the bird strike
22 reporting.

23 It is basically based on the
24 international system set up by ICAO, but the efforts I
25 have been put into this system in the last ten years



1 have resulted in a 300 per cent increase in reported
2 bird strikes in Canada.

3 Q. And then you refer to
4 presentations at national and international meetings of
5 airport wildlife control and publication of numerous
6 articles and papers on control programs. What do the
7 presentation and papers generally deal with?

8 A. They deal with the development and
9 implementation of wildlife control programs in Canada,
10 an analysis of our bird strike data, they deal with the
11 results and findings of the R & D program on wildlife
12 control in Canada. Some of them also deal with working
13 group meetings of either ICAO or the Bird Strike
14 Committee Europe on the development of new procedures
15 or manuals for implementation in countries other than
16 Canada.

17 Q. One of those articles has been
18 marked as an exhibit, M-425, and published in the ICAO
19 Bulletin, the official magazine of International Civil
20 Aviation of October 1987?

21 A. That's right. That is published
22 in four languages and distributed to all countries
23 around the world. We were asked by ICAO to write that
24 article for them so they could include it in the
25 bulletin.



1 I was also asked to assist ICAO in the
2 development and implementation of seminar recently
3 held in their Mexico regional office on wildlife
4 control. At that meeting, it was aimed mainly at the
5 countries of North and South America in ICAO, and they
6 sent out a notice of intent to hold this meeting and
7 solicited participation. Out of perhaps 20 or 25
8 papers that were presented, Canada presented nine of
9 those papers and I presented seven of them. It does
10 indicate the level of effort put into the program by
11 Canada and our recognition.

12 Q. The second last paragraph in your
13 curriculum vitae refers to you being the secretary to
14 the bird strike committee Canada. Tell us a bit about
15 that and its predecessor.

16 A. We have heard about the National
17 Research Council associate committee on bird hazards to
18 aircraft which is basically a research oriented
19 committee and it was funded by the National Research
20 Council with some funding from the airline and aviation
21 industry and Transport Canada and National Defence.

22 In 1975 or up to 1975 I guess the
23 government cut back funding and funding for that
24 committee was dwindling and in 1976 they felt it was in
25 their interest to disband that committee. In 1977 the



1 inter-departmental committee on bird hazards to
2 aircraft was formed and was a committee and the joint
3 responsibility for that committee was assumed by
4 Transport and National Defence.

5 I have been secretary to this committee
6 since its first meeting. In 1983, I believe, it became
7 Bird Strike Committee Canada. The change in role at
8 that time was to give airlines and aviation companies
9 as well as consulting companies or others interested in
10 this area a full participating role on the committee.
11 When it was an inter-departmental committee, the
12 airlines and other people were not given a full role on
13 the committee to influence decisions and that sort of
14 thing so it is now an open public committee. I
15 maintain liaison with all the airlines and aviation
16 industry across Canada for that committee basically.

17 Q. I think you perhaps have already
18 mentioned some of your work with ICAO and is there
19 anything else there?

20 A. It is an ongoing responsibility we
21 have with them. I was talking with one of the people I
22 work with back in Ottawa yesterday and yesterday ICAO
23 asked us if we would assist them in the revision of
24 some of the information they have on bird weights being
25 used by the aviation community to set standards for



1 aircraft design and development. I have been asked to
2 assist them in the re-development of part 3 of the ICAO
3 manual, bird hazards, which was discussed and used here
4 as an exhibit. So, it is an ongoing operation we have
5 with them.

6 MR. ESTRIN: With that tour through
7 Mr. McDonald's experience, I would ask the Board to
8 accept him as an expert in the area of bird hazards.

9 MR. LANCASTER: Yes, he will be
10 accepted.

11 THE WITNESS: I notice I was the only
12 one who had to touch the Bible. I don't think you
13 trust me.

14 DR. KINGHAM: That was an oversight.

15 THE WITNESS: I thought perhaps you
16 didn't trust me.

17 MR. ESTRIN: We did have a Bible
18 disappear.

19 Q. Now, Mr. McDonald, while we are
20 still in the area of your experience and curriculum
21 vitae, while you have worked with and developed the
22 reporting of bird strikes and statistics, gathered
23 statistics with regard to them, could you tell the
24 Board the limitations on your expertise with regard to
25 the area of statistics?



1 A. I have no experience, I guess, in
2 scientific statistical analysis and the interpretation
3 of the data I do is not specifically as to a
4 statistical analysis point of view, but rather an
5 interpretation and understanding of that data and the
6 limitations that have to be placed on that data,
7 knowing how it is collected and knowing how it is
8 stored and retrieved from the computer system
9 maintained by the Canadian Aviation Safety Board.

10 I guess the presentation of that data we
11 give in our reports is based on an understanding of the
12 limitations of the data based on the fact it is a
13 voluntary collection system and an understanding of
14 that system has to be had before you can totally expect
15 to begin to understand how the numbers relate.

16 Q. Now, your department or your
17 group, you are with the airports authority group?

18 A. Yes.

19 Q. If we turn to Exhibit M-425, the
20 article from ICAO, and we look at -- the ICAO magazine,
21 and we look at the last page, in the right-hand column
22 there is something there I wonder if you could tell us
23 helps to understand what the airport authority group
24 says does:

25 "The Airport Authority Group of



1 Transport Canada coordinates other
2 activities
3 supporting the development and awareness
4 of effective airport wildlife (bird and
5 mammal) control programmes across
6 Canada. These efforts fall into four
7 major categories:..."

8 And then the four are set out. Is that what your group
9 does?

10 A. Yes, it is. What we do or the
11 things they point out, the training of airport staff,
12 national workshops, Bird Strike Committee Canada and
13 awareness aids and bulletins, and we will be talking
14 about some of them later, but they are to increase the
15 awareness of our programs across the country and those
16 four activities increase the strength of the actual
17 operation, the ongoing operation of the program on a
18 daily basis, both at the headquarters, the regional and
19 the site level.

20 We have found that our programs at the
21 sites become much more effective the more people know
22 about them and this awareness is very important because
23 we depend totally on voluntary information from the
24 pilots and information required to be reported by the
25 site on bird strike data and to determine where the



1 problems are and what proper corrective action should
2 be taken.

3 So, we have found again, as I have said,
4 through increasing awareness of our programs and the
5 hazards that they create to the aviation public that
6 reporting of both bird strikes by the aviation
7 community and wildlife control activities by Transport
8 Canada and other airport staff has greatly increased
9 the effectiveness of control programs at the individual
10 sites, and this has been illustrated through reporting.

11 Q. I would like to ask you and the
12 Board to turn to your witness statement, Tab 2, first
13 of all where there is a document called "Clear the Air"
14 and I have an original copy of that, two original
15 copies for the Board, and everyone else has this of
16 course in their witness statement, but I would just ask
17 you briefly what that is and how it might relate to the
18 issues before the Board.

19 A. In an effort to increase the
20 awareness of the requirement to report bird strikes, we
21 have produced this flyer which was distributed to all
22 licensed pilots in Canada and, much to my amazement and
23 the amazement of some of the other people, 72,500 of
24 these were distributed. There are approximately, I
25 believe, 4000 members of the Canadian Airline Pilots'



1 Association, or 4500 who received a copy of this
2 directly through the distribution of the CALPA
3 organization and an additional 68,000, I believe, were
4 sent out to every licensed pilot in Canada.

5 Q. When did this happen or when was
6 this distribution, what year?

7 A. This went out in 1987 and I
8 believe it went out in the first half of 1987.

9 Q. There is another brochure not in
10 the witness statement entitled "A Bird Strike Hazard"
11 and is that also produced by your office?

12 A. Yes, it is.

13 Q. What involvement in it if any did
14 you have in that?

15 A. I was the contracting authority
16 responsible for the publication of this and also
17 basically for the development and verification of the
18 text. The aim of this bulletin -- over the last five
19 or six years and even going back farther than that, but
20 since I started with Transport Canada we have been
21 involved in the location of landfill sites and the
22 hazards they create at airports across the country, and
23 these hazards go right back to the beginning and
24 probably one of the first recognitions that the
25 National Research Council had was the problem of



1 garbage dumps near airports.

2 We were getting increasing demands,
3 increasing frequency of demands for assistance in a
4 review of information or the provision of information
5 relating to the location of dumps or sanitary landfill
6 sites near airports. We realized quite often the
7 information we were providing was in response to a
8 request that may have been too late even to assist in a
9 determination of site selection processes. So we
10 produced this brochure in an effort to inform municipal
11 officials and planning and engineering consultants who
12 may have an influence on the location of landfill sites
13 of the requirement to consider the location of airports
14 early in the planning process.

15 MR. ESTRIN: I wonder if we could mark
16 that as the next exhibit.

17 MR. LANCASTER: M-426.

18 ---EXHIBIT NO. M-426: Brochure, "A Bird Strike Hazard"

19 MR. ESTRIN: Q. Approximately when was
20 this distributed?

21 A. In June of 1987 and there were
22 approximately 900 of these sent out to the Association
23 of Municipal Administrators across Canada and the
24 engineering and planning consultants indexed in one of
25 the documents which contains quite an extensive list of



1 Canadian consulting firms involved in sanitary landfill
2 sites and other things, and an index produced by, I
3 believe, the National Engineering Association.

4 There was also copies of that brochure
5 sent out to over 200 airport managers across the
6 country and they were asked to distribute the document
7 to local officials who they felt could have an impact
8 on landfill locations around their airports.

9 Q. If you look at the symbol
10 contained on one of the pages, this symbol here, what
11 is that representing?

12 A. Garbage dumps and airports do not
13 go together.

14 Q. Is that the prime message or a
15 message you are trying to get across?

16 A. Yes, that is the prime message we
17 are trying to get across in this brochure.

18 Q. Why did you aim a brochure
19 specifically at municipal officials and planners?

20 A. They are the ones involved early
21 in the planning stages for the site selection process
22 for landfill sites and we wanted to get to people who
23 were involved at the very beginning of this process so
24 they would be aware of our requirements to not locate
25 landfill sites near airports. If they needed



1 assistance, hopefully they would come to us and allow
2 us to voice our concerns in the site selection process
3 and avoid the hazards of locating garbage dumps or
4 sanitary landfill sites near airports.

5 Q. Perhaps we can go back to that,
6 but I want to go to another document you produced, Tab
7 3 of your witness statement, where we see an Airport
8 Wildlife Management bulletin, and I have original
9 copies for the Board.

10 A. This is a publication that was
11 produced and this is one of two parts of the contract
12 awarded to a company to produce this bulletin and a
13 display for use at the National Museum of Natural
14 Sciences in Ottawa that ran for approximately four
15 months on bird strikes to aircraft and it ran at the
16 McLeod Museum in Ottawa. That National Museum does our
17 identification of bird remains and they were interested
18 in putting this display in the museum to make people
19 more aware of their activities and our activities in
20 this field.

21 This first bulletin was designed to
22 inform people at the museum of our program and our
23 operation of wildlife control activities at the
24 airport. The first page basically outlines what the
25 problem is and the second page outlines about eight of



1 the various methods or areas of activity in bird
2 control at airports.

3 Q. Stopping you right there,
4 if we look at this document for example, as I
5 understand what you are saying, you are not only trying
6 to articulate a problem with regard to birds and
7 aircraft, but also some of the measures that might be
8 taken to try and mitigate that problem?

9 A. Yes, we are. This brochure, the
10 bulletin was also distributed to all airports in Canada
11 and this is the first of a bulletin which I hope will
12 become a semi-annual publication. I wanted to get the
13 second one out by Christmas of '87 and it didn't get
14 out but it will get out in February of '88 and another
15 will go out in April or May of '88 and after that
16 hopefully it will be a semi-annual publication and the
17 distribution of this will be expanded beyond Transport
18 Canada and airport people to include all registered
19 aircraft, commercial aircraft operators in Canada, and
20 so they are aware of our program.

21 One of the things we found in the past
22 is you go to an airport and the fellow says "We send in
23 all these reports but what happens to them, we never
24 hear of it again" and we want to start returning
25 information to the sites to let them know we do use



1 their information on a daily basis and what they are
2 doing for us is useful in the operation of our national
3 program.

4 MR. ESTRIN: I am going to ask the
5 witness with respect to this film mentioned in the
6 curriculum vitae and it is also articulated and some
7 details are set out in paragraph 5 of the witness
8 statement. I want to ask about the film "Stop Bird
9 Strikes" because I wish to have this film shown to the
10 Board by Mr. McDonald, and I understand Mr. Lederer and
11 Mr. Tzekas have some objection, but the film has been
12 previously, some weeks ago, or shortly before Christmas
13 video copies of it were distributed to them and all
14 counsel involved has seen it who wanted to see it, and
15 so you are the only ones who haven't seen and I would
16 like to ask the witness about it, but in light of the
17 objections I would like to get the argument cleared up
18 before lunch so we know if we can show it after lunch
19 and make the arrangements over lunch hour.

20 Q. Paragraph 5 of the witness
21 statement refers to the film, but just describe why it
22 came about and what your role with it has been?

23 A. The film is used as part of our
24 development and used as part of our national training
25 program. Canada had produced a film in the early



1 seventies on bird strikes to aircraft which was
2 outdated and there are a couple of films available from
3 the U.K. and from France on bird strikes to aircraft
4 that were general in nature and basically they
5 illustrated what the bird strike problem was. We
6 wanted to develop a current film that applied
7 specifically to the Canadian situation and which could
8 be used to inform people at sites and even the general
9 public of what bird strikes and bird hazards were all
10 about.

11 The film outlines the problem of what
12 bird strikes are and what they can do to aircraft. It
13 outlines our program and our responsibilities for bird
14 strike control at the airports. It explains some of
15 the control techniques that are available and in use to
16 control birds and outlines and informs people at the
17 airports of their requirement to participate in the
18 program and to continually be on the watch for birds.

19 Q. This film is what, 21 minutes
20 long?

21 A. Yes.

22 Q. Produced in 1981 or 1982?

23 A. Yes.

24 Q. You were the contracting authority
25 on behalf of Transport Canada for the film?



1 A. I was. I developed the original
2 script for the film and it was later redeveloped to fit
3 the shooting, but it was done by the filming company.
4 I participated in all the filming across the country
5 and was present at all the shoots and I managed and was
6 responsible for the contract from initiation to
7 completion.

8 Q. I take it you are in a position to
9 answer questions about what we see in the film since
10 you were there?

11 A. Yes.

12 Q. I understand that this film won an
13 award at an international competition?

14 A. Yes, it did. There is a
15 competition run in Chicago and it is the National
16 Committee on Films for Safety and it accepts films from
17 around the world which have been developed for safety
18 purposes and reviews them and awards the prize for the
19 best film for that festival. Our film did receive an
20 honourable mention as being a well developed and
21 presented film. Some of the films it was up against
22 were films developed by companies like Ford and very
23 large corporations that spend hundreds of thousands of
24 dollars on the development of their material. Ours was
25 recognized above these other films as being a very



1 effective training safety aid.

2 Q. You say the film is an educational
3 presentation meant to inform and motivate airport
4 staff. I don't want to jump ahead and speculate unduly
5 about what the objection might be, but I am sure
6 someone might suggest that because one of its
7 objectives is to motivate, that therefore it is somehow
8 unbalanced and may convey false impressions. Can you
9 comment?

10 A. The aspect of motivation is to
11 illustrate to the people at the airports the problems
12 that are encountered with bird strikes and ways to
13 mitigate these problems. Not only does it deal with the
14 problem, but it also deals with the solutions. It is
15 not only to dramatize the impact of a bird strike, but
16 also to illustrate that they can be dealt with through
17 proper corrective action at the site.

18 MR. ESTRIN: I will turn it over to my
19 friends at this point to see what their objections are.

20 MR. TZEKAS: Mr. Chairman, may
21 Mr. Lederer and I have one moment?

22 MR. LEDERER: Thank you, sir. I do
23 object to the presentation of this film to you and
24 there are a number of bases. It seems to me that it
25 raises this kind of issue. Firstly, what is it that we



1 are looking for here? Are we looking for objective
2 data, objective analyses upon which to determine or
3 allow the Board to determine ...

4 MR. ESTRIN: I am sorry, but could the
5 witness sit down?

6 MR. LEDERER: By all means.

7 MR. ESTRIN: Sit down, this may be a few
8 minutes.

9 MR. LEDERER: I thought it was only my
10 cross-examinations that were noted for being long, but
11 it seems my reputation extends even further.

12 Sir, I want to submit to you that the
13 issues raised by this are fairly important ones and
14 ones which have to do in the way in which evidence is
15 presented to the Board and the manner in which it
16 interprets that evidence.

17 My submission is, firstly, that it
18 raises the question of whether or not what we are
19 looking for here is objective analysis upon which to
20 determine issues of the degree of risk as I have raised
21 it to various witnesses or whether we are after the
22 kinds of tools being used to motivate staff, and
23 Mr. McDonald has referred to that aspect of the study.
24 The question is the way it is presented. When you see
25 this movie, if you ultimately chose to see it, what you



1 will hear is mood music and it isn't going to be the
2 presentation of statistical information, but we will
3 have dramatic music which is meant to alert our
4 attention and to make us aware and it is my respectful
5 submission that that is not an appropriate way to
6 present evidence to a Board. That is to motivate
7 people. Candidly it's propaganda, and I don't say that
8 in a pejorative sense, but it has a purpose and its
9 purpose is to scare people, scare the people who are
10 responsible.

11 In my respectful submission that is not
12 the way in which this Board should receive information.
13 The fact is, it quotes in very frightening terms old
14 accidents going back to 1962. In my respectful
15 submission, that is not the way to receive information.
16 Mr. McDonald says he doesn't know very much about
17 statistics, and I understand that, but, with respect,
18 to simply hear about five frightening accidents in the
19 absence of a statistical analysis is to create fear and
20 it is not to receive objective analysis.

21 If Mr. McDonald wants to tell us about
22 these accidents, I don't know if anyone can object to
23 that because it is done in the environment in which
24 this evidence is to be received, which is this hearing
25 room, and it is constructed for a very real purpose; to



1 create the environment in which Board members can
2 understand the evidence they are receiving and
3 understand it in the environment which allows for and
4 creates the ability to objectively analyze it. Mood
5 music doesn't do that, with respect, and it is, in my
6 respectful submission, the kind of propaganda --
7 Mr. Estrin referred, or whoever prepared the witness
8 statement refers to the fact that this has been
9 admitted at other Boards.

10 Let me say that when this was presented
11 I objected at the Quinte hearing much on the same basis
12 I am objecting now and at that time Dr. Solman, for
13 what it is worth and he is not here, and it is hearsay,
14 but conceded the fact that it was done for the kind of
15 propaganda purposes I am suggesting, which was to alert
16 people and in a sense to frighten them, and I don't
17 recall if those specific words were used. It was
18 admitted with that understanding, but that isn't the
19 understanding that Mr. McDonald wants to place on it
20 because he has told you it is terribly balanced and in
21 my respectful submission it will become evident that it
22 isn't.

23 At the North Bay hearing, and I wasn't
24 there and I don't know if Mr. McDonald was and he may
25 know, but my understanding is, and I have this three or



1 four times removed, so if Mr. McDonald disagrees I will
2 accept immediately what he says, but certain portions
3 were excised because of the way it is presented.

4 In my respectful submission, the
5 information that is there can be presented, but with
6 respect, sir, it is not done in a way which this Board
7 is to receive evidence. It is made for a different
8 purpose. While everybody, and I among them will
9 understand this Board's natural effort and desire to be
10 objective, we are all of us influenced by these things
11 and it would be unnatural for us not to be. If Mr.
12 McDonald wants to tell us the data that is there for
13 the Board's analysis let him do it, but not in this
14 fashion, not in a fashion which is meant to create an
15 environment which is foreign to this kind of exercise
16 and to this kind of proceeding. Thank you, sir.

17 MR. LANCASTER: Mr. Tzekas?

18 MR. TZEKAS: Thank you, Mr. Chairman. I
19 share Mr. Lederer's concerns and may I just add two
20 small points that supplement what Mr. Lederer has said.

21 First of all, as Mr. Estrin will
22 indicate, the film has been shown both with respect to
23 the Quinte hearing and the North Bay hearing. The
24 appropriateness of showing it at those hearings I think
25 will become maybe a little plainer if you understand



1 that both of those airports involved airports that had
2 jet aircraft there and as a high proportion of their
3 traffic.

4 Throughout this film my recollection is
5 that there is only one reference made in the entire 21
6 minutes to any kind of small aircraft of the kind that
7 frequent the Burlington Air Park. So, it is really
8 aimed, if you will, at a different kind of airport and
9 I think that that is a concern that should be brought
10 to your attention and perhaps I can stop there.

11 I think that's the one point I also
12 wanted to add to what Mr. Lederer had said.

13 MR. LANCASTER: Mr. Estrin?

14 MR. GRIFFITHS: If I might. I have
15 several points in response to my friends. First, as we
16 know, this is not the type of evidence that could be
17 excluded because we have a jury situation. We have two
18 Board members who are quite able to accept not only
19 this type of evidence by film but also pictures. In
20 their text on evidence Sopinka and Lederman indicate
21 that films are accepted in much the same way as
22 photographs and the mood music my friend discussed is
23 no different than the colour on the photographs and the
24 way the photographs are presented and site plans are
25 presented and certain vantage points one will get with



1 photographs. This Board in my submission can factor
2 out any mood music and dig down to the evidence in the
3 film and determine what is relevant as opposed to what
4 may be what my friend called propaganda.

5 In my submission it is dangerous to
6 exclude evidence that can have some affect on your
7 decision and, indeed, we have the author here to cross-
8 examine on the script, and he indicated his involvement
9 was throughout the entire formation of the film, and I
10 will allow Mr. Estrin to make any further points.

11 MR. LEDERER: Perhaps I could just say
12 that Mr. Griffiths supports Mr. Estrin and typically he
13 should have preceded us in argument. As a result of
14 that, and it is a kind of peculiar situation, could I
15 make a couple of comments?

16 MR. LANCASTER: That is the Board's
17 fault as much as anyone else.

18 MR. LEDERER: First of all, there is a
19 difference and I am sure it is obvious between pictures
20 and film or movies. The difference is that a picture
21 appeals only to the visual sense, what you see, and
22 that is what is added. When you put in mood music you
23 put in totally unrelated sound and it appeals to the
24 oral sense and it is not a conscious consideration by
25 the Board.



1 You look at a picture and you assess
2 that picture as we all do, as we assess a map, and that
3 is how the Board can come to a conclusion that a line
4 drawing discussed by Dr. Kingham would be of
5 assistance, but you don't assess mood music, it is
6 there and in my respectful submission it has some
7 impact on any human. Obviously the Board would be
8 required to reduce its meaning but it is there and it
9 is unnatural for it not to have some impact.

10 Secondly, with respect to the script,
11 there is something missing when you talk about a
12 script, and I am sure this can be seen, but there are
13 other people interviewed on this film and Dr. Solman is
14 one and the manager of the Halifax Airport or maybe
15 Vancouver or both, I don't remember, but they are
16 others. It would surprise me to discover that those
17 people were scripted. They said what was their
18 experience. That is really what I think Mr. Tzekas or
19 one of the things Mr. Tzekas gets at when he talks
20 about what these people are saying. What are they
21 talking about? It is not this situation and they are
22 not here to be cross-examined and you can't cross-
23 examine Mr. McDonald because that is not scripted and
24 that is not something he can give -- he can give his
25 opinion or impression, but he doesn't know what those



1 people are really getting at.

2 MR. LANCASTER: Mr. Estrin.

3 MR. ESTRIN: Well, first of all, with
4 regard to the mood music, maybe we are taking a great
5 risk because the Board may think it is bad music and
6 might not like the film for that reason, who knows. I
7 didn't even notice the music because I was looking at
8 what I saw and what I heard.

9 If, in any event, the Board didn't have
10 a conscious impression of what mood music meant in the
11 viewing, they certainly will now if the film is
12 screened, Mr. Lederer having articulated that concern
13 for the Board.

14 With regard to the fact that Mr. Lederer
15 suggested it is designed to scare and create fear, we
16 are not dealing with a jury and if in fact the facts
17 cause some fear or apprehension then that will be what
18 the Board will have to assess. In fact why are we here
19 and why have we been spending a week on this topic if
20 there isn't some concern associated with the topic, and
21 Mr. McDonald will be subject to cross-examination and
22 Mr. Lederer can certainly ask him about any of those
23 events and ask him and try to suggest they are
24 irrelevant to the issue before the Board.

25 With regard to his last comment that



1 this film refers to other people and they are quoted,
2 Mr. Tzekas has distributed what I take it is a study he
3 intends to produce on this issue of bird hazards. It
4 is littered with opinions attributed to some named
5 people and some unnamed people about bird hazards at
6 various places around Ontario and I doubt I will get a
7 chance to cross-examine those opinions.

8 So, I think we can look at this film and
9 the Board can certainly look at this film and take the
10 facts and draw what inferences are appropriate from it
11 and it will simply be a question of weight as to what
12 significance the film has.

13 In my respectful submission it is
14 relevant evidence and it is something the Board should
15 hear. It is not something I borrowed from the library
16 down the street and I am asking the Board to look at
17 it. I have the person here who commissioned it, who
18 helped to write it and who can answer for it, and that
19 puts it in a different category.

20 MR. LANCASTER: Thank you, Mr. Estrin.
21 The Board has determined and decided it will see the
22 film. The Board is not concerned about mood music or
23 anything of that nature. I am sure we can handle that,
24 but it is an important topic which, as you say, a week
25 has been spent on, but it will be up to the Board to



1 determine what weight to give to it including the
2 comments made before and I am sure after, and perhaps
3 questions on the film at some time. So, the Board on
4 that basis will see the film.

5 DR. KINGHAM: If I could just add to
6 what the Chairman has said. We do appreciate the
7 observations that a portion of that film and perhaps a
8 large portion of that film may not be relevant and we
9 will bear that in mind and make that judgment when we
10 have seen it.

11 MR. ESTRIN: What I intend to do -- we
12 have the 16 millimetre version and we can set up the
13 projector over lunch and I have a videotape copy to
14 file with the Board.

15 MR. LANCASTER: I was going to say you
16 must realize that a copy must stay with the Board until
17 all the legal proceedings are over.

18 MR. ESTRIN: We have appreciated that
19 and have made those arrangements.

20 MR. LANCASTER: We will adjourn then
21 until two o'clock.

22
23 ---Luncheon Adjournment at 12:45 p.m.

24

25



1 ---Upon resuming at 2:00 p.m.

2 MR. LANCASTER: Thank you, please be
3 seated.

4 MR. ESTRIN: We are prepared to screen
5 the film and I have been advised by Mr. Nethercut that
6 since he won't have to record the film per se, since it
7 is an exhibit, he is quite prepared and has agreed to
8 move from his present location during that time.

9 -----
10 --- film "Stop Bird Strikes" shown

11 -----
12 MR. ESTRIN: Q. I take it since the
13 film was produced birds have not started to file flight
14 plans?

15 A. No, they haven't.

16 Q. Now, there maybe some questions
17 arising out of the film, but I am not going to ask any
18 at this time. If we can go back to your witness
19 statement ...

20 MR. LANCASTER: Just one moment. We
21 are just straightening out the exhibits. The Bird
22 Strike Hazard is M-426 and the film will be M-427.

23
24 ---EXHIBIT NO. M-427: Film "Stop Bird Strikes"

25



1 MR. ESTRIN: I will bring it down at
2 the next break.

3 MR. LANCASTER: What is it?

4 MR. ESTRIN: A videotape, a cassette.

5 Q. Mr. Tzekas is asking me if there
6 is a transcript of this script available?

7 A. There may be one available, but I
8 would have to check my files from when the film was
9 made. Does he want it?

10 Q. If one exists?

11 A. Another thing is I can't be sure
12 that the transcript that is available is word for word
13 with what is on the film. The transcript that was
14 approved may not include the interviews on the film.
15 It may not be an accurate reflection of what is
16 actually on the film.

17 MR. LANCASTER: The Board will largely
18 have to disregard the interviews for obvious reasons.

19 THE WITNESS: One thing for all of the
20 interviews on the film, those people were chosen to
21 talk and given a subject matter to talk about and they
22 weren't just interviewed based on their knowledge of
23 bird strikes, but rather to describe one aspect of the
24 program at their airport we were interested in at that
25 time.



1 MR. ESTRIN: Q. I wonder if we can come
2 back to a couple of exhibits that have already been
3 filed this morning, some of your publications.

4 First of all Exhibit M-425, the article
5 from Aviation Safety Magazine, ICAO. Would you turn to
6 the second page, the title page of the actual article,
7 and from the Xerox copy it appears that a bird is on or
8 through the screen of a propeller driven plane. Can
9 you tell us about that and show the Board the original
10 photograph of that as contained in the article?

11 A. Would you like to see the original
12 colour picture of it?

13 MR. LANCASTER: Yes.

14 THE WITNESS: I can't leave these with
15 you, but I can show you this. These are additional
16 pictures of that same subject matter. It is an
17 amphibious aircraft and that bird struck the windshield
18 and you can see from these pictures ...

19 MR. ESTRIN: Q. What is the bird?

20 A. The gull has penetrated the
21 windshield of the aircraft.

22 MR. LANCASTER: The same picture as this
23 one?

24 THE WITNESS: The same aircraft and two
25 different pictures from different angles, but it is the



1 same aircraft. I can also show you this.

2 MR. ESTRIN: Q. Show him the picture of
3 the original article first.

4 THE WITNESS: It illustrates a point
5 that not all aircraft are certified to the same extent
6 that commercial aircraft are certified. The airlines
7 go to great lengths to ensure -- the aircraft
8 manufacturers go to great lengths to make sure that
9 commercial aircraft are certified to be able to
10 withstand the impact of a bird strike to various areas
11 of the aircraft. At a certain weight a bird and
12 certain speed an engine must be able to take a four
13 pound bird without losing more than 10 per cent of its
14 power and must be able to recover to full capacity, and
15 there are standards similar to that for the leading
16 edge of the wings, the tail, the flaps and whatnot to
17 ensure that in the event of a serious bird strike
18 involving either one heavy bird or multiple small birds
19 that the aircraft is still operational and one of them
20 is the windshield. On small aircraft the windshields
21 and other surfaces including the engines of the
22 aircraft are not certified to the same level or degree
23 as a commercial aircraft and therefore is they are
24 struck by a bird, they are much more susceptible to
25 damage.



1 The one thing they have going for them
2 is a slower speed, but still most bird strikes to the
3 windshield of small aircraft do come through the
4 windshield and it puts the pilot in danger of either
5 being hit, and there have been incidents where people
6 have been killed by birds coming through windshields.

7 There was Learjet mentioned where a loon
8 came through the windshield and killed the co-pilot.
9 At Toronto Island Airport last year a bird came through
10 the windshield of an aircraft, and I don't know what
11 type of aircraft it was, and I forget right now, but it
12 was reported at the North Bay case and there is date in
13 my North Bay testimony of the date of the strike, but
14 it came through and injured the pilot and co-pilot.

15 Now, there will be some information I
16 will be talking about later where there was another
17 strike where a person was injured by a bird coming
18 through a windshield of a small aircraft in 1987 and I
19 can talk about that.

20 Q. Before we go on, counsel has seen
21 these photographs and the witness has indicated he
22 would like to show them to the Board and it is the same
23 aircraft as that shown in M-425, the same incident I
24 take it?

25 A. Yes, it is.



1 Q. Referring back to Exhibit 426,
2 Mr. McDonald, this is a brochure entitled "A Bird
3 Strike Hazard" and both on the front cover and at the
4 back the aircraft portrayed appear to be propeller --
5 appear to be small single engined planes. Was there
6 any particular reason why that particular type of
7 aircraft was chosen for illustration in that brochure?

8 A. Yes, there was. We put that in
9 there purposely to illustrate the fact that we are not
10 only concerned about the location of landfill sites
11 near large airports with commercial jet aircraft
12 operating but also at small airports where private
13 pilots and general aviation operates and that municipal
14 officials be aware of the fact that we are concerned
15 about the small private operator as well as the
16 commercial operations.

17 DR. KINGHAM: Can you tell us before you
18 go any further what you mean by "hazard" when you use
19 that term as opposed to "risk" when you use that term?

20 THE WITNESS: A bird strike hazard is
21 just the event of having birds and planes in proximity
22 to each other. When birds and planes are sharing the
23 same airspace there is a hazard and that hazard
24 increases as the number of birds or the possibility of
25 birds and aircraft interact. The closer the birds are



1 to the aircraft, and this gets into our restricting
2 operations or activities on airports to keep birds
3 farther away from the runways or even land use
4 practices around the airport. The greater the number
5 of birds and the greater number of aircraft in
6 operation, then the hazard will increase. As the
7 hazard increases then the risk of a bird strike will
8 increase with that.

9 DR. KINGHAM: I just wanted to know what
10 you meant by hazard and opposed to what you meant by
11 risk?

12 THE WITNESS: The hazard is the
13 possibility of birds and airplanes being in the same
14 airspace and having a bird strike and the risk is or
15 the risk increases as the number of birds and aircraft
16 movements increase.

17 DR. KINGHAM: Isn't that what you are
18 telling us the hazard is? I really want to know
19 because I think this is germane to what we are
20 discussing.

21 THE WITNESS: The hazard is the bird
22 strike or the incident of the bird strike which is the
23 hazard because it is what can cause damage to the
24 aircraft and in serious incidences it causes loss of
25 life or fatalities.



1 The risk I guess is what the probability
2 of that hazard occurring is. The risk increases as the
3 number of strikes increase and strikes can increase due
4 to either an increase -- if everything else stays the
5 same, the environmental conditions around an airport,
6 the number of strikes will increase if the number of
7 aircraft operations increase or if the number of birds
8 increase, and so the hazard will increase if we change
9 either of those two variables and all the other
10 biological or ecological elements stay the same.

11 MR. ESTRIN: Q. Mr. McDonald, just
12 briefly, with reference to a couple of the other
13 documents we looked at published by your agency, in
14 fact in your witness statement at Tab 2, the document
15 entitled "Clear the Air: Report All Bird Strikes" and
16 just on the inside page of that, and again I know on
17 the inside page it says:

18 "Birds pose a serious threat to
19 aircraft. When they collide, the
20 results can be severe- equipment damage,
21 injury and sometimes, death. You can
22 help reduce the threat by reporting bird
23 strikes to Transport Canada."

24 Do I take it that -- does this statement summarize in
25 some respect your agency's mandate and concern?



1 A. Yes. Our program, our control
2 program is based on reported strikes, and to say that
3 you could reduce the threat by reporting strikes to
4 Transport Canada; when we are aware of reported strikes
5 then we are aware of a hazard at a site and we can then
6 initiate action to do something about that.

7 We review bird strikes on a daily basis
8 in our office. Every strike that comes in is reviewed
9 and by doing this we know pretty well what the picture
10 is across the country and whether or not a number of
11 strikes are happening at any one airport, or even in
12 any one region.

13 After we have noticed an increase in
14 strikes at a site, we will then phone up the regional
15 office or the site directly and ask them what is going
16 on and tell them to get back to us and let us know what
17 remedial action they are taking to reduce that hazard.
18 This is something going on on a daily basis. We then
19 analyze the annual reports and the annual number of
20 bird strikes to determine whether or not strikes at one
21 airport or a dozen airports have increased over the
22 year. Then we develop our training plan for the next
23 year to ensure that we go out to those airports where
24 we have noted an increase in strikes and put on the
25 training package and do a technical review of the



1 airport to see if environmental modifications are
2 required to reduce the attractiveness of the airport to
3 birds.

4 So, the reporting program is the basis
5 for our short-term immediate actions as well as the
6 long-term actions.

7 Q. I wanted to next refer you to the
8 wildlife bird -- the Airport Wildlife Management
9 Bulletin, No. 1 which is also in your witness
10 statement, and the Board has an original copy. Looking
11 down on the left-hand column the statement is:

12 "Birds pose the most widely recognized
13 wildlife danger to safe aircraft
14 operations."

15 Stopping there, you described that you wrote a manual
16 both with regard to birds and another with regard to
17 mammals. Does that statement "Birds pose the most
18 widely recognized wildlife danger to safe aircraft
19 operations" meant to be a comparison between birds and
20 mammals in that context?

21 A. Yes, it is.

22 Q. And then under the heading on the
23 right-hand side:

24 "Airports require vast and level
25 expanses which, by necessity, are



1 usually some distance from urban areas.
2 They are likely to be adjacent to
3 farmland, wooded areas, a large body of
4 water, or even garbage dumps -- each
5 supporting a natural food chain which
6 attracts wildlife to the area."

7 The question from that is this a statement of fact as
8 you have noted it from past events, or is this
9 something that is desirable to occur in the future?

10 A. That is a statement of fact from
11 past events.

12 Q. On the third page of this
13 particular document under the heading of "Taking
14 Action" there is a discussion of certain techniques,
15 management and co-ordination, reporting, facilities
16 modification, artificial deterrents, ground
17 maintenance, habitat modification, farming methods,
18 removal and finally airport planning.

19 I guess what I want to ask you is the
20 order in which these are listed here -- well, in which
21 order in terms of priority and in terms of trying to
22 prevent these problems for the future would you put
23 those various techniques in?

24 A. If you can effect planning, either
25 at the airport or land use around the airport, that is



1 the most effective because it reduces the hazard before
2 it begins. This includes planning on the airport
3 because if we were doing a ditching project or even
4 sewage lagoons, when we plan sewage lagoons we have
5 guidelines or standards which prevent the location of
6 sewage lagoons within a certain distance of the runway
7 because we know they may attract migrating birds.

8 So, for the reference to future
9 development at an airport or even the surrounding areas
10 around an airport, planning is the place to begin
11 because then you can initiate action to reduce the
12 attractiveness to birds before actions are taken which
13 may some day be irreversible or very expensive to
14 reverse.

15 Q. Finally, with regard to the
16 document we entered just before lunch, coming back to
17 the one "A Bird Strike Hazard", Exhibit M-426, the film
18 said something about many strikes occurring I think
19 below a certain altitude and Dr. Richardson referred to
20 that. I am looking under "Consider the Facts" on the
21 right-hand side:

22 "Bird strikes occur most often during
23 takeoffs and landings - below 500 feet."
24 And is that your experience?

25 A. Yes.



1 Q. Then I wanted to take you to the
2 next page, and I am not sure if this is a page in the
3 Board's copy, but the page that has the table "Bird
4 Strike Damage to Canadian Aircraft" on it and in the
5 right-hand column the second paragraph, the statement
6 is:

7 "Planners often want to situate airports
8 and garbage dumps close to one another
9 because they seem to have similar
10 requirements. They both need to be
11 located away from major residential
12 areas, but close to population centres.
13 They also need to have year round
14 accessibility on land that is reasonably
15 priced. Regardless of these
16 similarities, airports and garbage dumps
17 don't mix!"

18 Stopping there, the term "garbage dumps", do you
19 understand in Ontario we differentiate between the term
20 dump and a sanitary landfill?

21 A. Yes.

22 Q. Can you tell us whether that term
23 garbage dumps was meant to include for this purpose
24 sanitary landfills?

25 A. Yes, it includes sanitary



1 landfills. The nature of this pamphlet was to inform,
2 I guess, and educate people with a highly technical
3 knowledge of landfill operations as well as the general
4 public. So, the level of writing in this pamphlet is
5 designed and aimed at a very wide audience and for that
6 reason technical terms were not used in it.

7 Q. Now, I wanted to ask you, we have
8 some idea from the documents that are attached to your
9 witness statement, and I am referring particularly now
10 to the manual of airport bird hazard control found
11 under Tab 6 and which has been referred to a number of
12 times. This is a manual which has the policy standards
13 and guidelines in it. Can you tell us how it came
14 about and what is the difference between policies,
15 standards and guidelines?

16 A. Within the airports authority
17 group, to ensure uniformity in design, construction,
18 maintenance and operations of airports, they decided to
19 produce what they call AK manuals, and these manuals
20 were designed at every possible aspect of airport
21 planning, design, construction and operation and bird
22 hazard control was one of these aspects of operation
23 that needed regulation.

24 So, what we do is we develop a policy
25 statement under which standards and guidelines would be



1 developed to regulate bird hazard control on airports
2 and we have similar ones for cleaning runways, or
3 building terminal buildings, or building runways or
4 whatever.

5 The policy statement is approved within
6 the department and under that we create standards which
7 are mandatory on Transport Canada property and for
8 Transport Canada personnel and which have to be adhered
9 to and guidelines which are recommended practices which
10 should be adhered to, unless there is reason not to,
11 and that basically is the difference. Standards have
12 to be applied and guidelines should be applied unless
13 there is a reason not to apply them.

14 Q. And, with regard to the policy
15 section we see, turning to policy 1.00 a couple of
16 pages over, I think the fourth page or the fifth page
17 of the document, that policy of October 1983:

18 "Transport Canada shall institute
19 effective programs and procedures to
20 control and minimize bird strike hazards
21 to aircraft at Transport Canada
22 airports."

23 And I take it that is part of your mandate?

24 A. It is.

25 Q. With respect to other aspects of



1 this document, if we turn over to what is the first
2 page of the numbered pages, a few pages over, and we
3 see a statement under item (ii) "Scope":

4 "This chapter identified standards and
5 guidelines with respect to the operation
6 and maintenance of airports for the
7 reduction of bird hazards to aircraft."

8 And then if we start going into it we see
9 responsibilities and it refers in the first few to
10 airport managers. My question is this chapter, does it
11 apply only to Transport Canada, or do the guidelines in
12 here, are they also meant to guide other airports and
13 other airport operators?

14 A. They apply to Transport Canada and
15 they are enforceable within Transport Canada, but they
16 are meant to guide other airport operators and airport
17 owners. The airports that are not owned by Transport
18 Canada don't operate in a vacuum. The airport managers
19 and field maintenance personnel participate in our
20 training programs, in our regional seminars and
21 national seminars, and those airports are inspected
22 from an airworthiness point of view by Transport Canada
23 and for this reason they get to know all of the
24 Transport Canada people.

25 When an airport which is not a Transport



1 Canada airport does have a problem and they can't deal
2 with it, quite often they will go to the regional
3 office and ask for assistance in dealing with their
4 program. Because of that I have been to a number of
5 non-Transport Canada airports and put on our training
6 package and done a technical visit and provided
7 assistance to them.

8 We also have people from non-Transport
9 Canada airports, like non-federal government airports
10 and non Transport or DND, but from municipal,
11 provincial airports coming to our training seminars and
12 I think that is an indication of the support that they
13 want from Transport Canada and they do pay for their
14 people to come to our training seminars, even though
15 they are not under our requirement to have their people
16 trained.

17 Q. At page 5 we see a heading "The
18 Hazards of Garbage Dumps". Again is this meant to
19 apply only to dumps or is it to include sanitary
20 landfills?

21 A. This includes sanitary landfills
22 and the first statement is:

23 "No solid waste containing food garbage
24 shall be dumped on airport property."

25 I guess the reason it is written that way is to make it



1 very explicit to people that no dumping of refuse that
2 is edible to birds shall be deposited on airports
3 because on airport property we don't operate sanitary
4 landfill sites but we do operate garbage dumps.

5 So, it is worded in such a way that the
6 people know there is to be no food garbage deposited on
7 land owned by Transport Canada.

8 Q. The third item under that heading
9 (iii):

10 "The local municipal officials shall be
11 made aware of the bird hazards to
12 aircraft associated with garbage dumps
13 on privately owned lands surrounding the
14 airport."

15 How long has that sort of guideline been in?

16 A. That is a standard.

17 Q. Sorry.

18 A. It is the airport manager's
19 responsibility to make local officials aware of this
20 requirement and all airport managers are on the local
21 Chamber of Commerce and hold regular meetings with
22 local officials and one of his responsibilities, the
23 airport manager's responsibility, is to inform the
24 community of this requirement.

25 That has been a standard since this



1 document was first drafted and promulgated, which was
2 probably back in the late 1970's, as a guideline and
3 the five mile distance, that has been in existence
4 within Transport Canada I would say since the 1960's.

5 Q. Is this the document that refers
6 to certain kinds of practices, areas A and B or is it
7 the next one?

8 A. This one does too, Appendix G.

9 Q. Can we go to that for a moment
10 while we are on it?

11 A. Yes.

12 Q. Let's go to Appendix G, G-1,
13 headed "Land Use in the Vicinity of Airports - Bird
14 Hazards" and I draw your attention particularly to the
15 last paragraph:

16 "At proposed new airports, bird hazards
17 can be minimized by careful selection of
18 the site ..."

19 And I want to go from there to ask at proposed new
20 landfills, is that also an applicable principle in the
21 view of Transport Canada?

22 A. Yes, it is. By properly locating
23 a landfill site, you can either remove or reduce the
24 hazard of bird strikes to aircraft at an airport. That
25 can either be by situating the landfill site in



1 relationship to an airport so it doesn't cause birds to
2 fly over the airport or near the airport, or by
3 locating the landfill site in an area totally remote
4 from the airport where it will not attract birds in any
5 way in the vicinity of the aircraft.

6 Q. Has your department been consulted
7 by municipalities who were in the course of attempting
8 to select a landfill site and wanted to have some
9 guidance with respect to the potential conflict between
10 birds and aircraft and landfills?

11 A. Yes, we have. I have personally
12 been involved in a number of site selection processes
13 for sanitary landfill sites and the closure of sites
14 since 1976. I first got involved in 1976 in the
15 closure of the Yarmouth garbage dump, and it really was
16 a dump, and Air Canada expressed a concern at that time
17 that if the bird hazard at the airport was not removed
18 they would consider pulling their flights out of
19 Yarmouth.

20 That was a situation where the dump was
21 perhaps a half a mile off the end of the runway and
22 they were flying right through the birds to come in.
23 The birds would be around the aircraft when they
24 landed. From that time on I have been involved in
25 either the closure of landfill sites or the site



1 selection process at Yarmouth, Fredericton, Edmonton.
2 Burlington, Yorktown, Abbotsford, North Bay, Trenton,
3 Peel, Grimsby, Kenora. There may be more if I went
4 through the files to see who has contacted me on either
5 assisting in closing garbage dumps or advising them on
6 the location of dumps during the planning process.

7 Q. As far as you are aware, was
8 Transport Canada other than at some point in 1986, a
9 date we can look at specifically by reference to
10 correspondence in this witness statement, but other
11 than in 1986 -- prior to 1986 was Transport Canada
12 contacted by the Region of Halton in respect to
13 soliciting Transport Canada's views with respect to the
14 site selection process for a new garbage site?

15 A. I am not aware of any contact.

16 Q. While we are on that, I wonder if
17 we could turn to Tab 9 and look at a couple of pieces
18 of correspondence and we can come back to it I think,
19 but I wanted to look at the first two letters with
20 regard to the point we were touching on. A letter
21 dated May 14, 1986 from my office to Transport Canada
22 advising Transport Canada in Toronto, in Willowdale,
23 that the Region was currently conducting an
24 environmental assessment and asking in the second last
25 paragraph:



1 "We, therefore, asked you whether or not
2 you would be requesting Halton to
3 provide you with a copy of their
4 environmental assessment and wish to
5 confirm that you advised that in fact
6 you would be requesting a copy of that
7 environmental assessment..."

8 And if you turn to the next letter, a letter of June
9 1986, it begins:

10 "Thank you for your letter of May 14,
11 1986, bringing to our attention the fact
12 that the Region of Halton is conducting
13 an environmental assessment on locating
14 a landfill site within the Region of
15 Halton. Copies of the environmental
16 assessment for review and comment are
17 being requested from the Region of
18 Halton."

19 What are you able to say having regard to that
20 correspondence? Does that confirm what you said a
21 moment ago that prior to about June, 1986, the Region
22 of Halton did not contact Transport Canada with respect
23 to its views on their site selection process?

24 A. As far as I know this is the first
25 time Transport Canada had been advised and we were



1 advised by David Estrin as opposed to by the Region of
2 the fact that the reports were available for review.

3 Q. Now, let's continue. You referred
4 to a number of municipalities or situations where you
5 have been involved in their trying to close down or
6 consulting in the process of site selection. Can you
7 assist the Board and give us one or two or other
8 examples of cases where Transport Canada's opinion was
9 solicited in respect of the site selection process for
10 a new landfill and some of the results?

11 A. At Fredericton we were asked early
12 in the planning stages to comment or select the
13 appropriateness of a number of sites that they had open
14 to them. We were able to advise them that the site
15 they have preferred was not acceptable from a bird
16 hazard point of view because it was on the opposite
17 site of the airport from the river which is fairly
18 close to the airport, and I forget what the name of the
19 river is.

20 Anyway, they took our advise and chose
21 to go to another landfill location which was farther
22 away but was not on the opposite of the airport but in
23 fact close to five miles from the end of the airport
24 and so by doing this they did not create a flyway over
25 top of the airport.



1 We have been advised or asked to comment
2 on site selection on sites that have been proposed by
3 the Region of Peel north of Toronto to see if we felt
4 that birds flying from Lake Ontario would impact on
5 aircraft safety at Toronto International Airport. I
6 have been asked to comment on the location of a
7 landfill site at Yorktown and in that case we were
8 trying to prevent the opening of a landfill site that
9 was in the flight path of the airport there.

10 At Abbotsford we were advised of the
11 desire, I guess, of a private operator to open a
12 landfill site close to Abbotsford airport, with a five
13 mile radius, and in that case Abbotsford is a very busy
14 airport and it is probably the busiest or second
15 busiest general aviation airport in Canada and it
16 serves a lot of small private aircraft, plus it is an
17 alternate for Vancouver International.

18 We had enough lead time in that case to
19 enact the Aeronautics Act and zoning regulations at
20 Abbotsford airport to prevent the location of that
21 site, but it was very expensive. I think the
22 settlement on that was either \$400,000 or \$600,000
23 against the federal government for damages incurred by
24 injurious affect under the Aeronautics Act. Sometimes
25 we have been successful with having prior notice of a



1 landfill site in coming to an amenable agreement with
2 the municipality or planning authorities to have
3 landfill sites removed at minimal cost, or relocated at
4 minimal cost to both the municipality and Transport
5 Canada but, in some other cases we have prevented the
6 location of them at unfavourable locations, but it has
7 been fairly expensive.

8 Q. Now, I would like to come back to
9 the document found at Tab 6, the manual, and we were at
10 page G-1. Can you help us. The policies or the
11 statements contained on G-1 relate to what is in the
12 next tab of the document entitled "Land Use in the
13 Vicinity of Airports"?

14 A. I guess the discussion at Appendix
15 G-1 over the last six days has been rather painful for
16 me because it has been superseded by what is in Tab 7.
17 What has caused us to supersede that is that in
18 discussions with airport management and regional
19 officials and operators and whatnot, we have come to
20 realize that what is in Appendix G is very hard to use
21 and it was illustrated and I don't think there was
22 really a clear understanding from the discussions with
23 John Richardson over the fact that a yes meant it was
24 an allowable land use and a no it was not an allowable
25 land use, and they got into discussions over the fact



1 there was already a landscape nursery at the existing
2 dump site and wouldn't that be disallowed, where in
3 fact landscape nurseries are an allowable land use
4 within the two mile and the five mile circle. It is
5 confusing here and it was confusing in the past so we
6 undertook to re-write this chapter of land use in the
7 vicinity of airports in 1983-1984, but after the
8 promulgation of that manual.

9 If that manual is to be re-promulgated,
10 it would have what it is in Tab 7 inserted into it.
11 What we have done there is to reduce some of the
12 restrictions on landowners around airports, even though
13 they are guidelines. We believe we have taken a closer
14 look at the guidelines and taken off some of these
15 impending restrictions that we hope would be put in
16 place by municipal or provincial planning officials.
17 So, hopefully, Tab 7 is a more useful variation of that
18 information.

19 Q. So the relevant Transport Canada
20 documents in terms of what Transport Canada evaluates
21 in terms of hazards is the one at Tab 7?

22 A. Yes.

23 Q. What role, if any, did you play in
24 writing the chapter, Part III, dealing with bird
25 hazards?



1 A. I was involved myself and another
2 person in my office wrote that.

3 Q. If we can then go to Tab 7 of the
4 report entitled "Land Use in the Vicinity of Airports"
5 and specifically looking at page 24, Part III, bird
6 hazards, you have set out two -- you have three major
7 headings and A is extremely hazardous land use
8 practices, B is moderately hazardous and C is other
9 activities. Now, it has already been brought to the
10 Board's attention that certain land use practices such
11 as a food waste landfill site is in the first category
12 of extremely hazardous and on what basis was that
13 reached?

14 A. That is based on historical data
15 and the agreement of experts in bird control around the
16 world that landfill sites are very attractive to birds
17 and except for some variations we have heard about in
18 the distances that various countries prohibit landfill
19 sites or recommend that landfill sites not be located
20 around airports, it is generally agreed that a five
21 mile circle is the most commonly used radius in all the
22 countries where these standards or guidelines are
23 applied.

24 Q. Then, there is also coastal
25 commercial fish plants and why is that ranked up there



1 with landfills?

2 A. Improperly managed fish plants are
3 very attractive to gulls and other shore birds and
4 again characteristically that type of operation has
5 been shown to be very attractive and we have had
6 situations in Canada where fish processing activity has
7 caused large numbers of strikes at airports.

8 Q. I gather from putting these two
9 together you are equating the hazard of the two?

10 A. Yes.

11 Q. Turning the page to the heading of
12 moderately hazardous land use practices, we have heard
13 a lot of discussion which was aimed at suggesting that
14 agricultural practices and fields, or it was suggested
15 at least were attractive or as attractive to gulls, for
16 example, as a landfill site may be.

17 First of all, does your ranking of
18 agricultural practices versus landfills lead to that
19 conclusion by you? Are you ranking them in the same
20 categories or not?

21 A. No, they are not.

22 Q. What can you tell us about why you
23 have inserted some agricultural practices in here and
24 can you please compare how you view agricultural
25 practices versus landfills in terms of their hazard



1 potential?

2 A. Again there is historical data
3 that shows that some agricultural crops are more
4 attractive to birds than others and also some
5 agricultural activities are more attractive to birds
6 than others, and these are generally accepted around
7 the world.

8 We understood a study, I believe, about
9 two and a half years ago and we had MacDonald College,
10 the agricultural college associated with McGill
11 University, they prepared a document on the
12 attractiveness of agricultural activities to birds.
13 What they did was review all the available information
14 and literature that they had access to to see and to
15 list the most attractive agricultural activities and
16 the birds that they attracted.

17 So, there was some work that went into
18 evaluating the list of crops and also the suggested
19 alternatives for their attractiveness to birds. These
20 crops again, if we know that an agricultural activity
21 off the airport is causing a bird hazard, then we can
22 go to the landowner and say "You are planting oats or
23 corn" and then we could say "Could we suggest off the
24 end of the runway if it is economically feasible for
25 you to change that, could you plant flax or canola or



1 something else" and he may be contemplating going into
2 an oil crop like canola anyway and if we advised him
3 that if he changed his canola field or his corn field
4 he could reduce the problem created by corn fields at
5 the end of the runway. So it is suggested alternatives
6 to reduce the agricultural attraction, but in co-
7 operation with the landowner.

8 Agricultural crops are not in the same
9 league as a landfill, because agricultural crops and
10 agricultural activities are attractive to birds for
11 short periods of time. A field is attractive for the
12 day it is being ploughed or the two days when it is
13 being ploughed, and if you are planting the seeds which
14 are attractive, they are exposed and some small shoots
15 are attractive because birds will come in and pull them
16 out and eat them, but again all these things mature at
17 a certain rate and that period of time is very short.

18 Also, not every field in a region
19 matures at the same time and not every field is
20 ploughed at the same time. If you have agricultural
21 activities around an airport, and you can see from the
22 photos here that around the airport you won't get
23 somebody out there ploughing every field that might
24 comprise 500 or 1000 acres around an airport. So there
25 won't be a mass oncoming of gulls to eat every worm



1 that comes up. There will be one field ploughed here
2 and the field on the other side of the runway may not
3 be ploughed for two weeks, or it may not even be
4 ploughed that year and so it will not represent a
5 hazard and it will also not create a situation where
6 gulls are coming and flying back and forth between the
7 two fields to see where the worms are the tastier.

8 If you locate a landfill site beside an
9 airport or an airport beside a landfill site, the
10 landfill site is a permanent fixture which represents a
11 food source to birds, either all year round or all the
12 time that fresh exposed garbage is available. The
13 birds will become accustomed to the fact that that
14 landfill site is there and they will fly to that
15 landfill site on a daily basis to see if there is food
16 available.

17 I have seen radar films documenting bird
18 activity from roosts to landfill sites where on time
19 lapse photography on the radar screen you can see a
20 white line going from a known roost site to a known
21 landfill site where the gulls are going back and forth
22 and back and forth.

23 Q. We were at Tab 7 and I don't know
24 if there is anything else you feel is relevant to
25 discuss with the Board while we are on that document,



1 but maybe there is?

2 A. One other point I think I should
3 bring up in this, is the issue of agriculture on
4 airports and why we have this 150 metre restriction
5 beside the runways and this is just to make it clear to
6 you. That 150 metre width strip beside the runways,
7 within the runway centre line where we prohibit
8 agricultural activity, that is due to a design criteria
9 of ICAO to maintain a strip width for safe aircraft
10 operation in the event that an aircraft should go off
11 the runway.

12 Because that area has to be maintained
13 to the ICAO standard to support an aircraft and allow
14 it to run off without running into a structure of any
15 kind or a ditch or whatever, we chose that 150 metre
16 width to restrict agricultural activities. Again, you
17 have to look at an airport, and some airports are vast
18 amounts of land and some are 10,000 or 12,000 acres.
19 You could imagine what the cost of maintaining 12,000
20 acres would be if we had to do it.

21 At Toronto International, for example, I
22 believe we have 1200 acres of land there right now out
23 to agricultural lease. So, by putting land on airports
24 into agricultural lease, quite often, as I said, most
25 stages of agricultural activity are less attractive to



1 birds than cut grass and so you are reducing the
2 attractiveness of that land for the majority of the
3 period of time to birds and plus you are generating
4 revenue for the airport and cutting down maintenance
5 costs, because if we were not leasing out that land we
6 would have to cut it and it would be another 1200
7 acres.

8 Now, that is true for any size of
9 airport and especially when you go out west. If you
10 fly into the western airports you will see there is a
11 lot heavier use of airfields for agriculture than there
12 is back east here.

13 So, for that reason, we allow
14 agriculture. Another thing is that on airports where
15 there is no agriculture, we allow brush and shrubs and
16 ditches and other natural growth to occur up to the
17 maintained strip width and brush and long grass and
18 various other things is as attractive to birds as
19 agriculture can be. It provides nesting sites and
20 protection, safe cover, this sort of thing, and it
21 wouldn't be fair to us to restrict agricultural
22 activity on an airport and generate revenue for the
23 airport manager but, on the other hand, allow other
24 activities, natural growth to be there that can be
25 attractive to birds. So, we decided and we assessed



1 the situation and came to the conclusion that
2 agriculture was no more attractive to birds on an
3 airport than natural growth and should be allowed.

4 So, to say agriculture in the vicinity
5 of an airport is creating a hazard and increasing the
6 risk really is not increasing the risk anymore than all
7 the areas of natural growth around the airport. Now,
8 that is the discussion that has been going on for a
9 couple of days on agriculture. The fact that
10 agriculture is allowed around an airport cannot really
11 be used for justification for allowing a landfill site
12 because you are not talking the same amount of
13 attraction, the same degree.

14 DR. KINGHAM: You are now mentioning
15 three terms and I think I understand what you mean, but
16 I want to be sure I do. You are talking about
17 attractiveness of fields and landfills and cut grass,
18 you are talking about risks of bird/aircraft collisions
19 and you are talking about hazards and sometimes hazards
20 apply to one and the other. It sounds like you are
21 saying, for instance to use an analogy, that tobacco
22 farming is hazardous to your health because from
23 tobacco farming you may have cigarette manufacturing
24 and therefore cigarette manufacturing is hazardous to
25 your health because when you have made cigarettes



1 people may smoke them and it is generally accepted that
2 cigarette smoking is hazardous to your health.

3 The collision with the birds you are
4 telling us is a hazard to the aircraft if the bird is
5 big enough and fast enough and the plane is susceptible
6 and the land use increases the probability of collision
7 and therefore the risk, but the land use itself is not
8 hazardous to the aircraft.

9 Have I got your terminology straight?

10 THE WITNESS: Yes, I think that is a
11 fair -- yes, that analogy is similar to the one with
12 tobacco where the land use itself is not hazardous to
13 the aircraft.

14 DR. KINGHAM: So we understand, you are
15 talking about the attractiveness of alternative land
16 uses in terms of probability. The reason I asked that
17 is because it is at this point that you list a coastal
18 commercial fish plant as an extremely hazardous
19 practice and I would have to ask you if that means you
20 have a totally enclosed building into which a ship goes
21 with its fish and out come cans of Sunkist tuna. Is
22 that hazardous to the aircraft, and maybe that is a bad
23 example. However, you get the point, because there are
24 many things that could be done which would mean that
25 fish plant is not hazardous to the airport?



1 THE WITNESS: The activity that is
2 hazardous is the disposal of the waste around fish --
3 fish waste and fish byproducts around those.

4 DR. KINGHAM: If that is done around the
5 facility; if that is done?

6 THE WITNESS: Yes.

7 DR. KINGHAM: I want to know what you
8 mean by hazard?

9 THE WITNESS: There is an activity
10 associated with fish processing which is very
11 attractive, but it is not the building itself that is
12 attractive.

13 DR. KINGHAM: It may be.

14 THE WITNESS: It may be.

15 MR. ESTRIN: Q. Just to pick up on
16 something you mentioned, I want to be sure you
17 understand, but you said at Toronto International
18 Airport there is agricultural activity occurring on a
19 few hundred or 1200 acres?

20 A. It was 1200 at one time in the
21 last couple of years.

22 Q. And that is allowed although bird
23 control measures are also being taken?

24 A. Yes. What we do first of all is
25 we restrict the distance that the agriculture can



1 encroach on the runways and we put a restriction in
2 that any crop that is causing a problem on the airport
3 and attracting birds has to be dealt with immediately
4 by the farmer or it will be dealt with by the airport
5 manager.

6 The third point is that at Toronto
7 International and at other airports the airport manager
8 has taken action to remove a crop that has caused a
9 problem. At Toronto they used to allow grazing a few
10 years ago on the airport, but the farmer was not
11 maintaining the fences and after the cows got out of
12 the pasture twice the airport manager said that's it,
13 no more cows on the airport and all the cows were gone.

14 At Calgary one day one of the fellows
15 was going home, I think he was the manager of
16 maintenance and engineering or the field supervisor,
17 and he noticed a hovering at the end of the field and
18 when he got down there it was a large flock of ducks
19 and it was in the hundreds, this flock of ducks. He
20 got down there and there was a field, and I believe it
21 was two years ago when the grain crops were very bad,
22 and the farmer deemed it was not worth harvesting the
23 crop and what he wanted to do was leave the crop on the
24 field until it was time to plough the field and he
25 would plough the crop back into the ground.



1 The grain was ripe and all the migrating
2 ducks came to the airport and were eating the grain and
3 there was this undue hazard at the airport caused by
4 the increased number of birds. The airport manager got
5 hold of the farmer and told him that he had to plough
6 that field that day or they were going in with graders
7 and they would bury the field themselves. I guess a
8 farm field after it has been levelled with a grader
9 isn't of much use to anybody. The farmer thought he
10 was joking and the airport manager was ready to get the
11 graders out and go into the field and when the farmer
12 found out the graders were on their way to the field he
13 came in and ploughed the field.

14 It is not something we take lightly and
15 there are a lot of cases, documented cases, where we
16 have imposed very strict requirements on farmers on the
17 airport to ensure that this hazard is not increased.

18 Q. The fact that Transport Canada
19 does allow at Pearson agricultural activities to occur
20 under controls or supervision or whatever, and you also
21 have a concern about birds there and have a bird
22 control program, the fact that those are allowed to co-
23 exist, does that in any way corroborate the Transport
24 Canada evaluation of where agricultural activities fit
25 into the scheme of things on a relative scale?



1 MR. LEDERER: Surely at some point this
2 gets to be leading. To set a series of facts that you
3 believe corroborate something and say "By the way, does
4 it corroborate it..." Mr. Estrin might as well give
5 the evidence. Surely at some point there is a limit to
6 the way this kind of question gets asked and surely the
7 question to the witness is can you give us any
8 information which would tend to corroborate this and we
9 can get it from the witness and not Mr. Estrin.

10 I understand the rules are very flexible
11 and I understand things can get to be very broad, but
12 if this is going to be treated as I presume it is, it
13 must be appropriate in some fashion, so let's have it
14 originate with the witness.

15 MR. LANCASTER: Yes, Mr. Estrin.

16 MR. ESTRIN: I am sorry, I didn't quite
17 put the question as aptly as I might have.

18 Q. To what extent is what Transport
19 Canada allows at Toronto airport indicative of the
20 relative hazard or lack of hazard that agricultural
21 activities represent to airports and bird
22 attractiveness?

23 A. The fact we do allow agriculture
24 on airports is an indication that we do not consider
25 agricultural activity anywhere near as serious a hazard



1 and as great an attraction to birds as a sanitary
2 landfill site.

3 Q. If I could perhaps get in one more
4 question before we take the afternoon break; coming
5 back to Tab 6 of your witness statement, Mr. Lederer
6 went through the standard agricultural lease clauses
7 with Dr. Richardson, and I think you were here for that
8 and seemed to suggest in his questions that perhaps
9 Transport Canada's policy was to allow four free
10 strikes or something of that nature before they got
11 concerned, and there is something in their agricultural
12 leasing policies which he referred to, and I think it
13 is on page 8 of this document which says:

14 "For those runways where the average
15 number of bird strikes over the previous
16 five years is five strikes or more in a
17 year there shall be no agricultural
18 leases for the use of lands within 150m
19 of runway centre-lines or runway ends."

20 My question arising out of that is that the kind of
21 interpretation and is that the manner in which
22 Transport Canada wishes that to be understood, you are
23 not concerned until you get more than four strikes?

24 MR. LEDERER: I don't think that's what
25 I said, with respect, and that's the kind of objection



1 Mr. Estrin made earlier, but the proposition which was
2 put is that the policy changes at that point and no one
3 suggests that people aren't concerned and as it said in
4 the Board's report and I referred to it in
5 Dr. Richardson's report, one strike is one too many,
6 but that isn't the issue, the issue is whether there is
7 a change in policy at that point.

8 MR. ESTRIN: Q. There seems to be a
9 change in policy after four strikes, but perhaps you
10 could indicate how this came about and what it means as
11 far as Transport Canada is concerned?

12 A. The reason the five strike number
13 was chosen is because, as I said earlier, we monitor
14 strikes on a daily basis and we monitor annual changes
15 in strike rates at the various airports. We know
16 whether an airport has had no strikes and now has two
17 or three. We are concerned about any airport that
18 would have a change in strike from zero to three or a
19 change in strikes from 40 to 60 or 40 to 50, but we had
20 to impose a restriction on airports for agricultural
21 activities and many airports across the country, and if
22 you look at the statistics which have been gone over
23 the last five days you will see we get up to one
24 airport having 105 strikes in one year.

25 We chose five as a relative number of



1 strikes or the number of strikes that we felt at all
2 airports, including large and small airports, we would
3 show concern and start restricting the activities of
4 the airport manager. It was a number we decided was
5 very restrictive when you look at the high number of
6 strikes that have occurred at sites, but our concern
7 for the hazards of birds and increased strikes on a
8 airport, it was worth reducing that number to five.

9 Q. That is a national kind of number,
10 I take it?

11 A. It is.

12 Q. How relevant is that when it comes
13 to an airport where there may have been no strikes or
14 one strike or two and do you apply national things like
15 this, Transport Canada things, and how applicable is it
16 in evaluating the situation at Burlington Air Park?
17 Will we not get concerned until four strikes have
18 happened?

19 A. We are concerned with every strike
20 and we are concerned with an increase from zero to two
21 because it indicates that something has happened at
22 that airport. As far as these five strikes go, and as
23 it applies to agricultural leases, that is when we
24 would start on a Transport Canada airport restricting
25 the activities of the airport manager as far as leasing



1 goes.

2 We are concerned with any strike at an
3 airport and especially any variation in the number of
4 strikes because it indicates that there is either an
5 increase in aircraft movements and control programs may
6 be less effective, or there may be an increase in bird
7 populations in the area.

8 MR. ESTRIN: Would this be an
9 appropriate time?

10 MR. LANCASTER: Yes, it would, it is
11 twenty-five to four. Ten minutes.

12 ---Recess

13 MR. LANCASTER: Please be seated.

14 MR. ESTRIN: Q. Just to complete
15 something with regard to that Exhibit, M-426, the
16 brochure, "A Bird Strike Hazard", I am showing you a
17 form letter contained in the appendices to the witness
18 statement for the planners for the Town of Milton and
19 which has not yet been marked but everyone has it, and
20 I want to ask you if you can identify this form letter
21 and it is only a few sentences and can you read it and
22 tell us what it is?

23 A. This is a letter of transmittal
24 that went out with the publication "A Bird Strike
25 Hazard" dated August 20 and previously I referred to



1 that as a June letter and I probably started it in June
2 and it took until August to get it signed.

3 Q. 1987?

4 A. 1987, and directed to municipal
5 planning directors and the title is a bird strike
6 hazard, garbage, birds and airports:

7 "The enclosed publication provides
8 information on the hazards to flight
9 safety created when sanitary landfill
10 sites are located near airports. Please
11 direct this information to municipal
12 planning directors who are able to
13 influence the location of landfill
14 sites. Locating landfill sites 8
15 kilometres or more away from airports
16 will help reduce the bird strike hazard.

17 Thank you."

18 And it is signed by the Director General, Professional
19 and Technical Services, the person I work for.

20 Q. I take it it would be appropriate
21 if we could give that letter an exhibit number and I
22 will undertake to have copies made.

23 MR. LANCASTER: M-42...

24 MR. ESTRIN: 426-A? Would that be
25 appropriate?



1 MR. LANCASTER: It would be.

2

3 ---EXHIBIT NO. M-426-A: Form letter attached to
4 brochure "A Bird Strike
Hazard" dated August 20, 1987

5 THE WITNESS: There is a similar letter
6 and the designation on the top was Consulting Engineers
7 and Planners as opposed to Municipal Planning
8 Directors.

9 MR. ESTRIN: Q. I want to come to
10 essentially -- come back to your witness statement and
11 I want to turn your attention to paragraphs 2 and 3,
12 particularly the issue of statistics concerning
13 reported bird strikes per year. You have already
14 mentioned efforts you have generally made to get better
15 statistics. First of all on that point you mentioned
16 something very early in your testimony, I think when we
17 were just dealing with your background, something about
18 a 300 per cent increase in the reporting of bird
19 strikes. Just back up and tell us about the changes in
20 a little more detail?

21 A. Okay. I guess when I became
22 involved in this in 1975 and '76, on some of our
23 airport tours, what we would do is we would attempt to
24 verify the number of bird strikes we had reported from
25 the airline pilots through what we call the "Pink



1 Form", the pilot report, a pilot reporting form for
2 bird strikes, the number of strikes reported at the
3 airport.

4 We noticed that for some airports we
5 might have 5 or 6 strikes reported, but when we went
6 through the tower logs, in fact there may have been 10,
7 15 or even 20 strikes noted in the tower log. A great
8 percentage of strikes was not being reported or were
9 not being reported to Transport Canada headquarters.
10 They were stopping at the air traffic control tower.

11 So, in 1977 we undertook to revise the
12 bird strike reporting procedures in Canada to not only
13 include reports from airline pilots, which was the sole
14 source of the reported data up to 1977, and in 1977 we
15 initiated the airport site bird strike report, a copy
16 of which is in Tab 6, Appendix A-1, and you will see
17 the CATA airport site staff bird strike report and I
18 initiated that report in 1977.

19 In 1977 we also started to include in
20 our annual bird strike statistics summaries we were
21 receiving from the airline head offices, and these
22 included reports that were generated through the
23 airline maintenance facilities and their regional
24 dispatch centres. Quite often when a pilot has a bird
25 strike he may file a SNAG report, which is a category G



1 incident report in their lingo, and they will file that
2 with their regional dispatch and with the airline head
3 office to indicate there has been an incident on the
4 aircraft. They will do a summary of those reports, but
5 the pilot after has reported his incident to his
6 airline may not file a pilot report and that could be
7 because he either doesn't have a pilot report with him
8 or he just doesn't like filling out forms.

9 So, we started to include those annual
10 summaries from the airlines in our statistics. We also
11 started to include National Defence bird strikes in our
12 statistics and the reason for that is that there are a
13 considerable number of National Defence movements at
14 some civil airports in Canada and at the National
15 Defence airports, even though the control of birds at
16 those sites is beyond our jurisdiction, we would be
17 able to sort out those strikes from the total by
18 airport designation and we would know how many happened
19 at Transport Canada airports.

20 So, by changing our reporting system
21 from strictly commercial aircraft pilots to commercial
22 aircraft pilots, site reports, airline head office
23 reports and National Defence reports, we have increased
24 the number of strikes reported from 250 to 300 a year
25 up to between 800 and 900 strikes a year and in 1986,



1 the last year for which we have a total, I believe
2 there were 868 strikes reported. Those 868 are
3 verified individual strikes and the duplicate strikes
4 are removed. I believe we may receive around 1200
5 strike reports and we eliminate 300 duplicates.

6 Q. What do you mean by a duplicate?

7 A. A duplicate is a strike that would
8 be reported by the site and by the pilot or by the site
9 and by National Defence.

10 Q. Now, even with the efforts you and
11 your people have made over the last several years to
12 get better reporting, can you tell the Board whether
13 what your experience is, even at this time, are the
14 number of strikes happening at airports that are
15 reported all the strikes?

16 A. No. We still feel a large number
17 of strikes go unreported. I guess we know by examining
18 the types of reports we are receiving now that there is
19 not a duplication of every pilot report in every site
20 report. So, that means that pilots are not filing 100
21 per cent of their strikes, because when you look at the
22 percentage of strikes reported by pilots we still
23 receive between 250 and 300 or 350 pilot reports a
24 year.

25 We feel that their reporting has not



1 really increased or decreased in the long run, but the
2 number of site reports and other reports has accounted
3 for the increase. By looking at that and the lack of
4 duplication between pilot reports and site reports, you
5 can draw the conclusion that a lot of pilots are
6 probably still having strikes and not even reporting
7 them to the tower. So there are commercial aircraft
8 bird strikes that are not being reported, but another
9 large group of bird strikes we feel is not being
10 reported is the general aviation bird strikes. I would
11 say that between '80 and '85 we may have been aware of
12 five or ten general aviation bird strikes a year.

13 Q. Stop right there. What is your
14 definition of general aviation for this purpose?

15 A. General aviation is private
16 operators in small aircraft that are not used for
17 hauling paying commercial passengers or paying
18 passengers.

19 Q. Would that be certainly some of
20 what happens at Burlington Air Park for example?

21 A. This would be aircraft typical of
22 Burlington Air Park.

23 Q. Or where else?

24 A. Any small private operator at a
25 larger field also. Another group of aircraft that was



1 not reporting strikes on a regular basis was the small
2 business executive jet class of aircraft. Since our
3 efforts to increase bird strike reporting and even
4 since the release of our document "Clear The Air", we
5 have noticed an increase in bird strikes being reported
6 by the general aviation public.

7 I think we have a long way to go still
8 and one of the problems is that I think a lot of
9 general aviation pilots don't realize the seriousness
10 of a bird strike and the impact it can have on their
11 aircraft, and that same thing is true for commercial
12 aircraft operators. I have had pilots tell me that
13 they didn't think a bird could hurt their aircraft,
14 even they do go through a fairly extensive and
15 educational process with their training with the
16 airlines to avoid bird strikes or how to operate the
17 aircraft in the event of bird strike, they still think
18 their aircraft are fairly indestructible when it comes
19 to bird strikes.

20 We were in a flight simulator at the
21 last meeting of the Bird Strike Committee of Canada and
22 we toured the engine power plant maintenance facility
23 for Air Canada in Dorval and we were in the DC9
24 simulator. They have something like 60 types of
25 incidents which they can program into the simulator to



1 simulate an emergency situation and a bird strike is
2 one of those things. So, if a pilot was in there doing
3 simulation on a flight the fellow in the back
4 programming in the incidents could push a button and
5 it would simulate a power failure or some other
6 structural failure due to a bird strike. So they are
7 trained on this aspect of flying.

8 Q. Have you in fact discovered
9 specific examples of strikes at, say, Toronto Island,
10 for example, where no reports have actually been filed?

11 A. Yes. In the report we were given
12 yesterday and produced by Burlington, in here there is
13 a reference to Toronto Island and in discussions with
14 the airport manager down there, it is reported that he
15 is aware of four or five strikes a year that are not
16 reported and they do not show up in the Transport
17 Canada statistics.

18 There is an indication of the fact that
19 general aviation and small business operators do not
20 report strikes to Transport Canada. Another example is
21 at Boundary Bay. We were asked to go out to Boundary
22 Bay.

23 Q. Where is that?

24 A. Boundary Bay is an airport south
25 of Vancouver. It was an old military field and it was



1 closed for a number of years, but in an effort to
2 relieve the small aircraft operations at Vancouver
3 International airport they decided to re-activate
4 Boundary Bay. So, it was opened in the early eighties,
5 and I am not sure what year it was opened, either '81
6 or '82. The region felt that we should go out there
7 and put our training package on for the airport
8 training staff on bird strike, bird strike control. We
9 hadn't had any strikes reported or very few strikes
10 reported at Boundary Bay in previous years, but after
11 going out there and putting on the training package, in
12 February of 1987 we have had four strikes reports since
13 then and one causing damage -- all of them to small
14 aircraft.

15 Boundary Bay airport is restricted to
16 non-jet aircraft movements. I think they only opened
17 it up to jet aircraft movements on an experimental
18 basis as of November, 1987.

19 Q. Just so I understand it, four
20 strikes have occurred at Boundary in 1987 to small
21 aircraft?

22 A. Yes.

23 Q. How would you compare the size of
24 Boundary Bay airport to say something like Buttonville?

25 A. Boundary Bay airport would be less



1 busy than Buttonville. I would have to check on the
2 statistics, but it would be less busy. However, the
3 type of operation may be similar. But I feel those
4 four strikes a year which are being reported at
5 Boundary Bay are only the tip of the iceberg and
6 similar situations exist at all airports across Canada
7 where bird strikes aren't being reported because people
8 either aren't aware of the hazard or aren't aware of
9 our program.

10 Q. Mr. Kovachik in fact was
11 questioned by Mr. Lederer as to whether or not he had
12 reported the two strikes he had at his air park and he
13 said he hadn't. Did you hear that?

14 A. Yes. That is another typical
15 situation of what is happening across the country.
16 Again it is another example of the fact that the number
17 of bird strikes that are occurring is much greater than
18 what we are aware of. I should add though that I feel,
19 and I think it could be accepted by people in various
20 countries, that the Canadian bird strike reporting
21 system is probably one of the more accurate reporting
22 systems.

23 The Americans have a terrible system.
24 They report very few bird strikes in the air, even
25 though they have, I don't know, many times more



1 aircraft operations. Some of the European countries
2 have very terrible bird strike reporting systems and
3 some have mandatory, but generally I would say that
4 ours is more credible than most European countries.

5 When you get into the underdeveloped
6 countries, and if you look at the international
7 statistics produced by ICAO, the reporting systems in
8 some other countries are almost non-existent. Some
9 countries don't even recognize the fact that strikes
10 occur even if they are -- the information is given to
11 them.

12 Q. The film "Stop Bird Strikes" had a
13 lot of large jets shown in it. Can you tell us,
14 please, about your experience with the statistics you
15 have been gathering with respect to the smaller
16 aircraft and whether or not the statistics indicate a
17 concern in that area and some examples of actual
18 occurrences and perhaps some damage?

19 A. Maybe what I can refer to is the
20 list. I went through the 1987 bird strikes for the
21 available reports that we had copies of on strikes to
22 small piston or turboprop aircraft and I produced a
23 list here which I can perhaps give to the Board.

24 Q. It is in your own handwriting?

25 A. The title of the list should be



1 1987 Bird Strikes to small aircraft or to piston/
2 turboprop aircraft. Again this list may not be
3 complete, and there may be reports over at the Canadian
4 Aviation Safety Board which we don't have copies of now
5 in our office and so there could be more. If you go
6 through here you see Sandspit, a Cessna 421, it struck
7 the nose and wing and damage to both nose and wing. In
8 Inuvik, a Cessna 310 struck the lights and damage to
9 the lights; the Beech struck the nose, no damage; and
10 Medicine Hat, a Beech, struck the wing and damaged;
11 Boundary Bay the C150 and there was no information on
12 that and it struck a bird at 100 feet. There was a
13 landfill site north of the airport there that maybe I
14 can talk about later.

15 The next one is Boundary Bay, a Cessna
16 142 and the damage was reported but the part struck was
17 not included.

18 Q. When you use the initial "C" ...

19 A. A Cessna. Next is Buttonville, a
20 Cessna 310, leading edge and horizontal stabilizer
21 damaged. The horizontal stabilizer is probably the
22 most critical control surface on an airplane and in
23 certification of commercial aircraft it has to be able
24 to withstand the greatest impact of any of the tests
25 and so it is probably the most critical surface except



1 for on a single engine on a single engined aircraft.

2 Toronto Island, pilot storm window. I
3 have a note that the windshield was broken, it
4 shattered into the cockpit injuring the pilot. That is
5 the second broken window at Toronto causing damage or
6 injury.

7 Then there is Edmonton Municipal,
8 Spectra Airways, and I am not sure what the aircraft
9 is, but damage to the leading edge. At Moncton, a DHC-
10 6, a Twin Otter, and damage to the wing, \$58,000 to
11 repair. Those were the repair costs and lost revenues.
12 At Grand Prairie an Navajo Chieftain hit a flock of
13 gulls on engine 2; the prop and wing was damaged. The
14 Piper Navajo again was damage to the leading edge at
15 Hamilton.

16 You can see some of these airports are
17 the ones we have talked about; Hamilton, Toronto
18 Island, Buttonville, and again Boundary Bay, a strike
19 to a propeller and at Boundary Bay, a strike to
20 windshield. Then there is Saùlt Ste. MARie, a HS748,
21 damage to the wing. Quebec is a Convair 580 with
22 damage to the lights. Black Water River, and that is a
23 Bell 206B helicopter and a bird went through the
24 windshield and it was a small bird causing a four inch
25 hole. I have a note there to read that incident, and



1 the intent of that -- maybe I will read it. These are
2 copies of the original strike reports. This is just
3 noted as a personal note from the pilot:

4 "Recalling bird strike of bird with
5 Okanogan resulting in fatal crash in
6 Gold Bridge area."

7 That is another helicopter crash that happened, I
8 believe in 1981, and I will refer to that in a minute,
9 but he says:

10 "Feel in my strike there was about three
11 seconds after strike that I was unaware
12 of what had happened. A loud bang and a
13 lot of unexplained wind in cabin."

14 And that is my greatest fear, that when a bird comes
15 through the windshield of a plane and you have a
16 student pilot or an inexperienced pilot he will
17 momentarily lose control of the aircraft and that is
18 the most critical phase of the operation I feel which
19 will impact on general aviation aircraft. The pilot
20 will lose control and not be able to deal adequately
21 with the emergency situation he is put in and not that
22 a single bird strike will cause total engine failure of
23 the aircraft or millions of dollars of damage like can
24 happen in commercial aircraft operations.

25 The last strike is Dawson Creek, a Piper



1 and a wing, a hole in leading edge from a duck.

2 Another thing if you will note on here,
3 most of the birds that have caused damage are of the
4 larger classification and this is something that came
5 up in the review of the information in land use in the
6 vicinity of airports. It is not large birds that cause
7 damage but larger, and the word "larger" is referred to
8 in Tab 7 in the explanation of extremely hazardous land
9 uses.

10 You will see there under A extremely
11 hazardous land use practices and under Note 1:

12 "The following land use practices are
13 extremely attractive to bird species
14 that are:

15 (1) a high hazard to aircraft because of
16 their larger size..."

17 MR. LEDERER: What are you reading from?

18 THE WITNESS: Tab 7. This came up
19 yesterday -- not yesterday but in previous testimony.
20 We are only concerned about large birds and my
21 statistics show that gulls are not large birds, but it
22 is larger birds we are concerned about and flocking
23 birds. So I just wanted to clear that up. If you go
24 through this list you will notice that most of the
25 birds that cause damage are larger birds or flocking



1 birds and that is what we are concerned about here, the
2 attractiveness of landfill sites to gulls, which are
3 both larger birds and flocking birds, and so you are
4 attracting a type of bird that in the statistics has
5 been shown to cause a major proportion of the bird
6 strike damage.

7 If you go back to the list that was gone
8 through numerous times, and if you look at the type of
9 birds that cause the damage in the significant and
10 catastrophic incidents in those lists, I believe you
11 will find in maybe 90 or 95 per cent of the incidents,
12 that the bird involved was either a larger bird or a
13 flocking bird.

14 Again most of the incidents that are
15 considered significant in Canada and around the world
16 are caused by larger birds and flocking birds and it
17 shows up in all the statistics.

18 Q. And gulls?

19 A. Gulls are a larger bird and a
20 gregarious bird, a very large flocking bird. We have
21 talked here of landfill sites that can have 2000 and
22 3000 birds on them, but at Boundary Bay, Boundary Bay
23 airport during the reactivation of Boundary Bay
24 airport, Transport Canada had to subject the project to
25 the federal EARP process and a panel was held and one



1 of the recommendations of that panel report was that an
2 18 month study be undertaken by the Canadian Wildlife
3 Service to determine the impact of re-activation of the
4 airport on birds at Boundary Bay.

5 During that study they monitored the
6 Burn's Bog landfill site which is maybe a mile and a
7 half or two miles inland from Boundary Bay and on the
8 opposite site of the airport. They have counted
9 consistently 20,000 gulls on that landfill site and at
10 times the counts have been as high as 30,000. So,
11 landfill sites don't only attract 2000 or 3000 gulls.

12 We did a research project on the use of
13 distress cry tapes on birds and appropriate methods to
14 use to distress cry tapes to scare off ring-billed
15 gulls in Ottawa, and the sanitary landfill site in
16 Ottawa during that study period, which was perhaps
17 three months, consistently had 5000 or 6000 gulls on it
18 and these are counts down by biologists and not by
19 airport operators or aircraft operators. They are
20 scientific studies.

21 Another finding from the Boundary Bay
22 study was that during periods of peak gull migration
23 they counted up to 6000 birds an hour crossing the
24 runway at Boundary Bay, crossing the airport, and those
25 birds were on a beeline from a roosting site to a



1 landfill site.

2 Q. Before we go any further I wonder
3 if we could mark your list of 1987 bird strikes?

4 MR. LANCASTER: M-428.

5 ---EXHIBIT NO. M-428: List of 1987 Bird Strikes

6 MR. ESTRIN: Q. What did we correct
7 the title to say?

8 A. 1987 Bird Strikes to
9 piston/turboprop aircraft.

10 DR. KINGHAM: You said it was at
11 Boundary Bay there were up to 20,000 to 30,000 birds,
12 sometimes up to 6000 an hour?

13 THE WITNESS: The Wildlife Service
14 reported consistently 20,000 birds on the landfill site
15 and up to 30,000 birds on the landfill site and 6000
16 birds an hour crossing the airport at peak periods
17 during heavy bird movement.

18 DR. KINGHAM: I think you told us this
19 was something a little less traffic than Buttonville
20 you said?

21 THE WITNESS: Yes. Let me see. I will
22 see if it shows up in the top 10 airports. It is less
23 than Buttonville because I have a list of the top 10
24 airports for total aircraft movements in 1986 and
25 Boundary Bay is not there. I am not sure where it is,



1 but I know it would be less.

2 MR. LANCASTER: How would it compare
3 with Burlington Air Park?

4 THE WITNESS: It may compare favourably.
5 I am not sure, because there was quite a resistance to
6 aircraft operators moving to Boundary Bay and the
7 transition was not totally successful and there was
8 also a political problem where Vancouver Airport in an
9 attempt to generate revenue reduced the landing rates
10 for general aviation aircraft and that attracted a lot
11 of the aircraft back to Vancouver that had moved to
12 Boundary Bay. So I could get those figures, and I
13 could have them for you in the morning.

14 MR. ESTRIN: Q. Now, in paragraph 6 of
15 your witness statement it is indicated that in addition
16 to reported bird strikes there are a significant number
17 of aborted take-offs and precautionary landings every
18 year because of bird strikes that are not classified as
19 accidents or incidents from a safety point of view but
20 which do have an impact on flight operations. Would
21 you please tell us about that and give us some
22 examples?

23 A. Okay. Again not all bird strikes
24 result in catastrophic or serious incidents, but during
25 take-off, I guess that is the most critical phase of



1 flight, because quite often the aircraft is fully
2 loaded and is under full power to take off and if the
3 airplane was to have a strike that would interfere with
4 either the performance of the aircraft as a whole or
5 the aircraft engine and he was to lose power, he may
6 not be able to regain power to continue his take-off.
7 The take-off is probably the most critical phase of the
8 flight.

9 I have with me also some reports from
10 the Safety Programs Branch of Transport Canada who keep
11 a summary of aircraft incidents that have, I guess,
12 have been serious enough to warrant an incident status
13 in the reporting system. To receive the status of an
14 incident, a bird strike or an accident, or any event
15 has to have a certain amount of significance to it. In
16 these reports that I have, several of them, even though
17 they were not crashes, they did result in significant
18 alteration to the flight regime of the aircraft.

19 Now, here is an incident, and again
20 these are small aircraft, a Cessna 172.

21 Q. What statistics are these?

22 A. These are statistics which are
23 compiled by the Safety Programs Branch of Transport
24 Canada.

25 Q. You are reading the statistics for



1 what year?

2 A. Accident Data Report, an
3 accumulation of statistics and I believe it may be too
4 present. The problem I guess is one thing, because I
5 don't know whether this is a historic data base or not,
6 so it may not include all the statistics going back,
7 but this is November, 1976 and so it is over a
8 significant period of time.

9 A Cessna 172 aircraft struck a bird
10 while on final approach and in that incident there was
11 minor injury to two crew members. May 17, 1978, a
12 Piper PA28 Cherokee, while climbing through 4300 feet,
13 the aircraft struck a bird and the bird strike caused
14 substantial damage to the left wing leading edge. The
15 pilot reduced his air speed and returned to Peace River
16 aircraft.

17 Q. Airport?

18 A. Airport, I am sorry. In that case
19 no injuries were reported but it was a commercial
20 pilot. The last incident I read or the first incident
21 I read was also a commercial pilot.

22 September 25, 1980, a Piper PA 23, again
23 a commercial pilot and while in level flight at 3000
24 feet above ground level the aircraft collided with a
25 snow goose. The bird broke through the windscreen at



1 the centre vertical post and did considerable damage
2 inside the cockpit, minor injury to one crew member.
3 Again a commercial pilot.

4 March 21, 1980, a Cessna 172, shortly
5 after the aircraft levelled off at 2000 feet on a night
6 flight, a 3-1/2 pound duck struck the aircraft and came
7 through the windshield. The pilot was momentarily
8 stunned by being struck on the left side of the face.
9 He was able to maintain control and declare an
10 emergency and make a successful landing. This fellow
11 was a senior commercial pilot with over 2000 hours of
12 flying experience and there was minor injuries to one
13 crew and one passenger.

14 A Bell helicopter, 206, on the 18th of
15 July, 1980, approximately two minutes after departure
16 and at a height of 200 feet a bird struck and shattered
17 the windshield and as a result of the impact the pilot
18 momentary lost control of the aircraft which descended
19 and struck the top of several trees. The pilot was
20 unable to regain control -- I am sorry, he was able to
21 regain control and landed the aircraft safely at an
22 airport two miles away. Again a commercial air pilot
23 with 1900 hours experience.

24 So, we are lucky in those incidents and
25 I believe we are dealing with commercial pilots and



1 that may be why those incidents are reported also as
2 compared to some of the other incidents like the one
3 Mr. Kovachik referred to where his friend's two sons
4 were killed. It was not a commercial incident and they
5 may not be under the formal reporting regulations and
6 structure that commercial operators are.

7 Q. What is the significance of those
8 pilots being commercial pilots with a number of hours
9 of experience relative to the situation you understand
10 exists at Burlington Air Park?

11 A. The general aviation pilots
12 operating in and out of Burlington Air Park would not
13 have the experience or experience in actual flying
14 hours that a commercial pilot has, and would not be
15 trained formally to deal with emergency situations
16 should one arise.

17 Another incident referred to when I was
18 going through the list, a helicopter strike, and that
19 is the one referred to in the mountains and the date I
20 think was 1981. An aircraft was flying three
21 biologists through the mountains and they were counting
22 mountain sheep and from the tape the helicopter
23 disappeared and search procedures were initiated and
24 the helicopter was not recovered for, I believe, three
25 months. They did recover the helicopter, they found



1 the remains of the bodies and a lot of bird feathers in
2 the area around the aircraft. They had the tapes of
3 the biologists because they were counting mountain
4 sheep and talking into tape recorders and they were
5 close enough to the ground that they could see the
6 tracks of the mountain sheep in the snow. Suddenly
7 everything on the tapes went quiet and what they think
8 happened is that a raven went through the windshield of
9 the aircraft, of the helicopter. They took some of the
10 bird feathers from the scene and the main shaft of the
11 feathers were shattered in such a way that they feel
12 the damage to the bird feathers themselves could not
13 have come from any animal or bird picking over the
14 bodies of the deceased and they had to come from a
15 force equal to the impact of striking the helicopter.
16 Those four people died as a result.

17 Now, they had an inquiry into it and the
18 inquiry never came to the conclusion that it was the
19 actual bird strike that caused the crash but rather the
20 pilot's inability to recover from the incident of a
21 bird strike. So, this is quite often what happens, in
22 serious incidents like that, it may not be the bird
23 strike that is listed as the cause, but rather the
24 incidence of pilot error in not being able to recover
25 from the strike.



1 Q. I think you mentioned to me,
2 moving on to something else, but I think you mentioned
3 something about an incident involving a Blanca, a Piper
4 Cub?

5 A. Right. This is another one, an
6 incident that was related to me a couple of months ago
7 by Don Langdon, and Don Langdon is the Chief Engineer
8 at the Canadian Aviation Safety Board Lab in Ottawa.
9 He said he was investigating a crash of a Blanca, a
10 small aircraft similar in size, I believe, to a Cub and
11 what happened was that this was a fellow who had a
12 private strip and he was often seen returning to his
13 strip to land at night.

14 On this one day he was observed coming
15 home and made a 180 degree turn for no apparent reason
16 at all, and on the turn he stalled and piled in and
17 killed himself. The investigation of the crash
18 revealed that the side window on that aircraft had been
19 hinged up on to the wing similar to what you can do on
20 a Cub, if you are familiar with that. To get into the
21 aircraft the door splits across the middle and the top
22 half hinges up and the bottom half hinges down to climb
23 in. The window had been hinged up and it had been
24 ripped off the aircraft about 1000 yards back before
25 where the accident occurred.



1 The window had been impacted and showed
2 excessive stress failure and had blood on it. They came
3 to the conclusion that a bird had hit the window and
4 knocked the window off the wing of the aircraft and he
5 returned to try and find his window before landing on
6 the strip and on the turn he stalled the aircraft and
7 piled it in and killed himself.

8 So, I believe after talking to people
9 like this, the stories we have heard here today, that
10 there are in fact incidents of death in Canada reported
11 or occurring from bird strikes, but which have not been
12 properly reported or documented by Transport*Canada.

13 MR. ESTRIN: Mr. Chairman, I notice it
14 is almost twenty to five. I am not going to complete
15 this in the next -- I think I would be roughly another
16 hour.

17 MR. LANCASTER: We can have that hour
18 tomorrow.

19 MR. LEDERER: Before you rise ...

20 MR. ESTRIN: Oh, yes I should advise
21 that Mr. McDonald advised me, and as you know he has
22 been here for five or six days, but his schedule is
23 such that he can certainly be here all day tomorrow,
24 but he advises me that he is not available on Thursday
25 and is prepared to return Monday.



1 I am prepared -- I suspect that if I
2 finish within approximately an hour, and I will do my
3 best to do that tomorrow, that should give my friends
4 pretty ample time to cross-examine. I am not trying to
5 unduly suggest they be restricted in any way, but if
6 they are not completed, and I think they would like to
7 be completed, but it may not be possible for re-
8 examination at that point. I am certainly prepared to
9 do that on Monday if Mr. McDonald is prepared to come
10 back and I can start on Thursday with our
11 hydrogeological people, but I wanted to advise the
12 Board of that potential small problem.

13 MR. LANCASTER: It seems if you are not
14 going to be that much longer we should be able to
15 finish-tomorrow.

16 MR. ESTRIN: We did discuss sitting
17 Friday, but some counsel are not available.

18 MR. LANCASTER: What about starting at
19 nine tomorrow? I know Mr. Estrin is always here early
20 and we are too and you are as well, Mr. Lederer
21 usually and Mr. Tzekas. Is that any problem?

22 MR. ESTRIN: That's fine with me.

23 MR. LANCASTER: My colleague has a
24 commitment a little later on.

25 DR. KINGHAM: It depends upon how late



1 "late" is?

2 MR. LEDERER: I don't like to grasp at
3 moments, but Mr. Tzekas would join me in saying it is
4 always difficult to split a cross-examination. While
5 Mr. Estrin seems confident that we should be able to
6 complete cross-examination, it does seem they are
7 always, and not just for this witness and not just for
8 this hearing, but for any hearing there is a multiple
9 of direct examination, but keeping that in mind and if
10 we start at nine and go a bit further tonight, it seems
11 we could get to the point where Mr. Estrin could finish
12 his direct examination by 9:30 and we would then really
13 have a full day at this and there might be some
14 advantage to that, and I don't want to press the Board
15 because it has been a long day and it might be too
16 much, because then it obviously would be too much, but
17 it would be very difficult I suspect for us to leave
18 this partway through especially with hydrogeology
19 coming in.

20 MR. LANCASTER: What can you do in say
21 20 minutes?

22 MR. ESTRIN: I think I can cover a few
23 more aspects if the Board is prepared to sit?

24 MR. LEDERER: I would very much
25 appreciate it, thank you.



1 MR. LANCASTER: I would rather not, but
2 I certainly will.

3 MR. LEDERER: I beg your pardon?

4 MR. LANCASTER: I would rather not, but
5 I certainly will.

6 MR. ESTRIN: I will keep my eye on the
7 clock.

8 Q. I would like to turn to paragraph
9 7 of your witness statement where you have summarized
10 and indicated that bird strikes are not regular events
11 but rather a random event and that any strike is
12 potentially life threatening and you have given us
13 examples of that last statement, and particularly it is
14 the next sentence I want to have you elaborate on:

15 "Many serious strikes happen at airports
16 with very low reported bird strikes or
17 even, in some cases, no reported bird
18 strikes."

19 I guess we should continue:

20 "He will indicate bird strike statistics
21 show that serious bird strikes do not
22 happen necessarily at those airports
23 with the highest number of strikes, or
24 even at those airports with the highest
25 bird strikes per 10,000 movement rate.



1 Bird strikes can happen at any airport
2 and it does not have to be an airport
3 with a history of problems or a large
4 number of aircraft movements."

5 Could you please elaborate on that?

6 A. Well, what we did is we took a
7 look in about 1981, 1982 at our bird strike data to try
8 and determine if we could predict where the next
9 serious bird strike would happen. We looked at
10 historic data for serious events that had caused damage
11 to aircraft right across the country, and what we
12 examined characteristically was the Boeing 737 strike
13 rate because we had better information for commercial
14 operations than for private operations, and the 737 is
15 operated at a wider range of airports across Canada
16 than the DC9 or any other type of aircraft.

17 We found out after taking a hard look,
18 and this was done by a company with knowledge and
19 experience in statistical practice, that the event of a
20 bird strike causing damage was based nationally on the
21 number of aircraft movements nationally. You could not
22 say that any one area of Canada was more susceptible to
23 bird strikes than any other area, but rather the event
24 of a serious bird strike was due to the proportional
25 amount of aircraft movements at an airport or a class



1 of airport.

2 What I mean there is that Toronto
3 International and Vancouver and Calgary and Winnipeg
4 will have more serious bird strikes than they do if you
5 look at the annual reports you have been presented with
6 than the smaller airports, and that is due to the fact
7 that they have greater numbers of aircraft movements.
8 But, for small airports where we have very few reported
9 bird strikes, and this includes Transport Canada
10 airports and some private or municipal and provincial
11 airports, if you add up the sum of aircraft movements
12 at those airports you will find that a large
13 proportion, and it is around 50 per cent of damaging
14 bird strikes, happen at small airports and airports
15 with either no or very few reported bird strikes.

16 Q. What was that last statistic you
17 gave us, 50 per cent?

18 A. About 50 per cent.

19 Q. Of what?

20 A. Of damaging bird strikes occur at
21 airports, at smaller airports, meaning not the
22 international or larger national airports, and a
23 significant number of that 50 per cent happen at
24 airports with no previously reported bird strikes or
25 very few incidents of reported bird strikes.



1 One of the reasons we started to examine
2 this was a serious incident at Stephenville,
3 Newfoundland where a 737 was on take-off and ingested a
4 gull in the engine and it was mentioned in the film and
5 that engine caught fire and it was extinguished and an
6 aircraft engine has two extinguisher bottles in it, but
7 the fire re-ignited and it was extinguished again and
8 the pilot was able to return to the airport and land.
9 The engine was totally destroyed and perhaps it was one
10 of the first documented cases of an uncontained engine
11 failure to that model, a JT4D, but that type of
12 aircraft engine in Canada.

13 We noted after that that similar
14 incidents have happened at Sydney, Nova Scotia where a
15 marsh hawk was ingested into a 737. There had been no
16 reported incidents of bird strikes at Stephenville in
17 the previous five years. At Sydney, Nova Scotia, there
18 had been no or very few reported bird strikes, and I
19 would have to check the reports, but a marsh hawk was
20 ingested into a 737 engine and that incident cost \$1
21 million to repair.

22 At Wabush, Labrador, there had been no
23 reported incidents of bird strikes and in 1986 a 737
24 ingested gulls and the gulls at Wabush, they believe,
25 were attracted by an incinerator off the airport that



1 was attracting gulls and this one received some
2 coverage in the media because six people were injured,
3 minor; and I think one person had a broken ankle or a
4 twisted ankle, but that aircraft aborted take-off and
5 the runway was wet and he ran off the end of the runway
6 and it cost \$1.9 million to recover the aircraft and
7 repair it.

8 What else? We have had similar
9 incidents like that across the country where we have
10 had significant damaging strikes occur at airports
11 where no documented problems had been received. So,
12 after taking a look at incidents like that and total
13 incidents across the country, we came to the conclusion
14 that you could not predict where the next serious
15 incident would happen, but it was a random event and
16 could happen at any airport. I think some of the
17 information we started to document on smaller general
18 aviation aircraft and the incidence of serious strikes
19 to them, we would probably find out that the incidence
20 of bird strikes to GA aircraft was also a random event
21 based on the total number of movements nationally,
22 rather than specific numbers of movements at one
23 airport or another.

24 The only thing I would say is that I do
25 believe you can increase the incidence of bird strikes



1 at an airport by putting an attraction like a landfill
2 site beside that airport and by increasing the number
3 of strikes at the airport you would increase the
4 probability of a serious bird strike at that airport.

5 Q. Now, in the way your statistics
6 come out can a problem at one site in effect be greater
7 than the national average?

8 A. Yes, it can. The problem at a
9 site is usually due to an environmental problem or an
10 increase in the attractiveness to a specific species of
11 bird. If you look at the bird strike statistics for
12 Halifax, you will see that a significant number of the
13 bird strikes at Halifax are snow buntings. The way the
14 airport is constructed and located it is an ideal
15 wintering ground for snow bunting and we get a rash of
16 strikes from snow buntings in the winter.

17 If you look at Sandspit, you will find
18 the majority of strikes out there are snipe, I believe
19 it is, and if you look at an airport like Sudbury you
20 will see that the majority of strikes, and in some
21 years 100 per cent of the strikes at Sudbury are gulls,
22 and we have determined over the years that the reason
23 we get gull strikes at Sudbury is because when the
24 blueberries are ripe the gulls come in to eat the
25 blueberries. When I am going over bird strikes in



1 Ottawa I can tell you when the blueberries are ripe in
2 Sudbury because I will get 8 or 10 bird strikes in a
3 two week period and all of those 8 or 10 strikes will
4 be gulls.

5 So, serious attractiveness or
6 environmental conditions at an airport can
7 significantly increase the risk, the occurrence of bird
8 strikes at that airport and it can also specifically
9 increase the occurrence of bird strikes of a specific
10 species of bird that is attracted to that environmental
11 condition.

12 Now, that is one thing that in previous
13 testimony when you were talking about strike rates per
14 10,000 movements and the incidence of gulls strikes per
15 10,000 movements, it was very low nationally compared
16 to the overall strike rate per 10,000 movements. But,
17 if you look at airports like Sudbury or some of the
18 other airports where gulls are a significant problem,
19 you will see that 100 per cent of the strikes at that
20 airport are gulls and then you cannot start to say that
21 because the incidence of gull strikes nationally is
22 very low that the possibility of a serious gull strike
23 at that airport will be low, because 100 per cent of
24 the strikes are gulls.

25 You have to draw a relationship between



1 the fact that if all your gull strikes -- all your
2 strikes are gulls and gulls are involved, gulls are
3 rather larger birds or flocking birds and they are
4 involved in a significantly high proportion of serious
5 incidents, then the possibility of a serious incident
6 happening at an airport with a large gull attraction
7 will be greater than the national average.

8 Q. Now, I think we have pretty well
9 dealt with the manuals, the two Transport Canada
10 manuals, and in paragraph 8 of your witness statement
11 you say you refer to Annex 14 to the ICAO convention,
12 specifically article 9.5 which is found in Appendix 4,
13 and also the ICAO airport services manual Part III,
14 bird control and reduction found in Appendix 5 and do
15 you have any comments on those two documents?

16 A. The ICAO Annex 14 you will see in
17 there is at Tab 4, 9.5, the recommendations, that
18 "The Appropriate Authority should take
19 action, as necessary, to decrease the
20 number of birds constituting a hazard to
21 aircraft operations by adopting measures
22 for discouraging their presence on, or
23 in the vicinity of, an aerodrome".
24 Now, that is a general direction under which airports
25 operate under ICAO standards.



1 Tab 5, the airport services manual, Part
2 III is direction given to those airport authorities by
3 ICAO and they are guidelines on procedures for, in this
4 case, bird control and reduction. In the last year
5 ICAO has revised their section 9.5 of Annex 14 to
6 reflect more stringent control measures to be required
7 at airports and that all airport authorities take an
8 examination of the bird populations and the bird strike
9 rates at their airports to determine if a hazardous
10 situation does exist.

11 It is also recommended, I believe,
12 something to the effect that these studies at airports
13 be undertaken by authorities with experience in this
14 area, meaning biological studies and not again asking
15 the airport manager if he thinks he has a problem.

16 We have been involved in a review of
17 those ICAO standards and they are now in the process of
18 being adapted. Part III of the airport services
19 manual, and here there is a reference to the location
20 of sanitary landfill sites.

21 Q. Where is that?

22 A. In Tab 5, section 6.2.4, and that
23 refers to an 8 mile limit. I said earlier it is
24 generally accepted around the world that the 5 mile
25 limit is acceptable, but this is at the European



1 Mediterranean Regional Air Navigation meeting, and ICAO
2 I believe may have 9 or 12, something like that
3 regional offices. This was the consensus that was come
4 to at one meeting. I don't want the fact that they
5 say ICAO in one report says 8 miles to make the whole
6 thing seem insignificant like people sit around at a
7 table and say today we will make it 8 miles. That was
8 a report from only one regional meeting.

9 An important thing is that Part III of
10 the Airport Services Manual of ICAO is being updated
11 now and one of the main thrusts ICAO is putting into
12 the manual is the development and operation of proper
13 control programs at all airports. There will be
14 sections put into that manual on the development and
15 operation and control programs, reporting programs and
16 instruction on control techniques.

17 Q. Now, I wonder if we could come to
18 the subject discussed in paragraph 11 of your witness
19 statement, and again basically the methods of trying
20 to prevent land use conflicts with airports such as
21 landfills and where there are mechanisms available to
22 Transport Canada directly and indirectly and perhaps
23 why you are here?

24 A. Land use or the control of land
25 uses outside the airport is not a federal government



1 responsibility, but it is a provincial matter and so we
2 know and we have heard it said here that Transport
3 Canada cannot apply its standards on land that is not
4 owned by Transport Canada or is not zoned for purposes
5 of the airport operation.

6 What we can do though is create zoning
7 regulations at the airport which will control land uses
8 around airports. Until recently most airports in
9 Canada were not zoned and some of the larger airports
10 are zoned.

11 Q. When you use the term "zoned" you
12 are now referring to zoning under the federal
13 Aeronautics Act?

14 A. Yes, the Aeronautics Act to
15 control land uses or other obstacles or whatever that
16 might interfere with safe aircraft operation at the
17 site. Right now more airports are being zoned to
18 ensure that land use around the airport does not
19 encroach on airport operations or even future airport
20 development. I guess the first zoning regulation that
21 was ever promulgated for prohibition of a landfill site
22 in the vicinity of an airport was at North Bay.

23 That went through Privy Council in 1979
24 and it was published in North Bay in 1983, I believe it
25 was. Since that zoning regulation was developed and



1 passed for North Bay in 1979, that has become a
2 standard regulation that is put in, to my knowledge, to
3 all zoning regulations presently being developed for
4 airports in Canada and that zoning regulation
5 stipulates that no -- I should read it, but what it
6 does is prohibit the disposal of food garbage edible to
7 birds on lands controlled under the zoning regulations.
8 Again, that is being put into all new zoning
9 regulations.

10 Now, we cannot zone all of the airports
11 in Canada at the same time as it is a very expensive
12 and time consuming operation.

13 Q. Why is that?

14 A. To put zoning regulations on an
15 airport; what we will do is zone the flightpaths, the
16 approach and take-off zones to the airport plus
17 something they call the horizontal plane, which is an
18 area underneath, an imaginary plane which I believe may
19 be 200 feet, and I am not sure about that, but I think
20 it is 200 feet above the airport and it controls any
21 activity underneath that surface.

22 To put new zoning regulations on that
23 area, we have to in some case survey all the land in
24 that area and attach that amendment to all the deeds.
25 When you get to an airport like, say, Toronto or



1 Ottawa, or Toronto Island or something like that, you
2 can imagine the number of properties around Toronto
3 Island and downtown Toronto that would have to be
4 notified of the zoning amendment. For that reason we
5 can't just go out and zone every airport, but a
6 priority is being placed on those airports where zoning
7 regulations are required.

8 A couple of examples of zoning
9 regulations that have been imposed to show that we do
10 intend to protect those airports we can is at Mirabel.
11 When they acquired land for the expropriation -- not
12 the expropriation, but the development of Mirabel, they
13 acquired something in the area of 89,000 acres, I think
14 it was, and after a public outcry we decided to return
15 approximately half of those lands to the public.

16 Zoning regulations are being imposed on
17 all the land returned to the public to prevent its use
18 for a landfill site and also agricultural restrictions,
19 and so there are zoning regulations being placed on
20 that land I think to prevent the growing of corn, oats
21 or sunflowers on any of the land being returned to the
22 public. They are presently in the process of rezoning
23 the Pickering lands and the prohibition of landfill
24 sites will also be placed on the lands known as the
25 Pickering lands.



1 I said before that that zoning
2 regulation was to prohibit landfill sites has also been
3 imposed at Abbotsford and North Bay. I believe there
4 are a number of airports in Ontario I know that have
5 been zoned with it one, but I am not sure which ones
6 they are.

7 MR. ESTRIN: We haven't quite finished
8 this topic, but I see it is five o'clock and shall I
9 finish this particular topic?

10 MR. LANCASTER: Go ahead.

11 MR. ESTRIN: Q. You mention in the
12 witness statement that although there is the power to
13 zone, it requires a lengthy consultation process and
14 implicates the federal government to pay compensation
15 by way of injurious affection. Could you elaborate on
16 that?

17 A. There is provision under the
18 Aeronautics Act to pay injurious affect for anybody who
19 is impacted in what they assume to be a negative way by
20 zoning regulations. The Abbotsford case is an example
21 of that where a person acquired land that he proposed
22 to develop into a landfill site and we zoned to prevent
23 that operation and it did cost us -- it was \$450,000 or
24 \$650,000 to compensate him for what he saw as loss of
25 income.



1 In North Bay, the City of North Bay
2 served notice to the federal government that the zoning
3 regulations at North Bay, although they cannot be
4 imposed on their dump, on their landfill site because
5 zoning regulations are not retroactive, they have
6 served notice to us that they have suffered injurious
7 affect. It can cost the government a lot of money to
8 get into a mess like this plus zoning regulations are
9 not retroactive. So if a landfill site does become
10 active before we can zone around an airport, we cannot
11 have it removed and must live with it for the life of
12 the site. So, the best thing to do is prevent the
13 location of a sanitary landfill site.

14 In the re-writing of the Aeronautics Act
15 which has taken place over the past five or six years
16 and which I believe was published in maybe 1986, I am
17 not sure of the date of it, there are two clauses and
18 perhaps I could refer to them.

19 In the Aeronautics Acts under airport
20 zoning...

21 Q. To assist the Board I have copies
22 of the consolidation.

23 A. It appears it was published in
24 1985. If you look on page 60 under Airport Zoning,
25 section 4.4 (2) (a), it says:



1 "The Governor in Council may make
2 regulations for the purposes of
3 preventing lands adjacent to or in the
4 vicinity of a federal airport or an
5 airport site from being used or
6 developed in manner that is, in the
7 opinion of the Minister, incompatible
8 with the operation of an airport; ..."

9 Now, section (b) says:

10 "The Governor in Council may make
11 regulations for the purpose of
12 preventing lands adjacent to or in the
13 vicinity of an airport or airport site
14 from being used or developed in a manner
15 that is, in the opinion of the Minister,
16 incompatible with the safe operation of
17 an airport or aircraft;..."

18 That regulates the use of land around the airport for
19 sanitary landfill sites if it impacts on aviation
20 safety.

21 Part (3) on page 61:

22 "The Governor in Council shall not make
23 zoning regulations under paragraph
24 (2) (a) unless
25 (a) the Minister, after making a



1 reasonable attempt to do so, has been
2 unable to reach an agreement with the
3 government of the province in which
4 lands to which the zoning regulation
5 applies are situated providing for the
6 use or development of lands in a manner
7 that is compatible with the operation of
8 an airport; or
9 (b): in the opinion of the Minister, it
10 is necessary to immediately prevent the
11 use..."

12 That is not important.

13 In 3(a) the essence of me being here is
14 to prevent the location of a landfill site near an
15 airport that would possibly create a hazard at that
16 airport that the Minister would then have to try and
17 regulate under zoning regulations. If under the Act as
18 myself as a representative of Transport Canada could
19 prevent the location of that landfill site, then we
20 have fulfilled the intention of the Act under this
21 point.

22 MR. ESTRIN: Perhaps this would be an
23 appropriate point to stop.

24 DR. KINGHAM: Shall we exhibit this?

25 MR. LANCASTER: We will exhibit this



1 and it is marked as M-429.

2

3 ---EXHIBIT NO. M-429: Air Regulations and
4 Aeronautics Act

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DR. KINGHAM: Is it very difficult for
you to get the total number of small aircraft movements
in Canada in 1987?

THE WITNESS: '87 will be difficult
because statistics take about a year to generate the
way they do it. I can get it for '86.

DR. KINGHAM: That might be useful, in
particular for the Boundary Bay experience.

THE WITNESS: One of the reasons I can't
be here on Thursday is I must meet with a consultant on
the site selection process for the new North Bay
landfill site.

MR. ESTRIN: Are we starting tomorrow at
nine?

MR. LANCASTER: We will reconvene at
9:00 a.m. in the morning if that is convenient for
everyone. It will make a long day.

MR. ESTRIN: I don't know how many more
minutes I have, but it is in the range of half an hour.

---Adjournment at 5:06 p.m.



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(Page 18100 follows)



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