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NATURAL RESOURCES CONSERVATION BOARD

Application No. 1701

SPRINGBANK OFF-STREAM RESERVOIR PROJECT

P R O C E E D I N G S

Volume 2

March 23, 2021

(Via videoconferencing)

1 Natural Resources Conservation Board Proceedings taken
2 virtually in Calgary and Edmonton, Alberta.

3

4 Volume 2

5 March 23, 2021

6

7

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Sandi Roberts	Commission Member
Walter Ceroici	Commission Member
Daniel Heaney	Commission Member

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1 Richard Secord For SR1 Concerned Landowners
Ifeoma Okoye Group

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3 Bob Williams For Calalta Amusements Ltd.
and Calalta Waterworks Ltd.

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5 Scott Wagner For Scott Wagner

6

7 Lorelee Vespa CSR(A) CRR RPR Official Court Reporters
Deanna DiPaolo, CSR(A)

8

(Proceedings commenced at 8:30 a.m.)

9

THE CHAIR: Good morning, everyone. Day 2,
March 23rd of the hearing.

10

11 I thought yesterday went pretty well. We were
12 pretty close on our timing, so I appreciate that. We
13 had a couple glitches that hopefully we'll be able to
14 work out for today. You never know. As I say,
15 technology is technology, but I'm hoping that we are
16 good to go for today.

17 I did get a note, though, or a heads-up about
18 speakers as we're switching between panel speakers and
19 back and forth between counsels and then to the extra
20 panels, that it is a little tough for both Justin to
21 get people pinned onto speaker view and for our court
22 reporters to get the last name for the transcript. So
23 we'd like to get the transcripts of course as accurate
24 as we can, so we do need your help in that regard.
25 Sometimes I know it's a quick answer, so you might just

1 want to jump in, but if you could identify, even if
2 it's just your last name, it works, and say it just a
3 little bit slowly, pause, and then start with your
4 answer, and that'll really give both MNP on the Zoom
5 side and our court reporter, who is Ms. DiPaolo, this
6 morning -- good morning, Ms. DiPaolo -- a chance just
7 to get the transcripts right and get our Zoom right.
8 So I really would appreciate your cooperation with
9 that.

10 Mr. Secord, are you online?

11 MR. SECORD: Yes, sir, I am online. And I
12 think I worked out the audio. I think Mr. Wiebe said
13 my sound is better this morning, so I hope -- do you
14 find it the same?

15 THE CHAIR: It does sound better, yes. Thank
16 you very much.

17 MR. SECORD: So I think I've worked that out
18 for the rest of the hearing. Thank you.

19 THE CHAIR: Okay. And I did have one request.
20 You had an undertaking on consultation. I'm not
21 sure if you had a chance to look at transcripts. It's
22 not necessary right now, but I would appreciate if you
23 had a chance to get that into Mr. Kennedy, and just so
24 we can track those, we can number them, and then we can
25 ensure that we have the follow-up. So if you could

1 have that undertaking with the -- essentially the name
2 or the question that you had for Alberta
3 Transportation, and then when Alberta Transportation
4 has that answer, we'll get that all on the record.

5 So at your convenience, if you could have that,
6 and then we'll try to do a little better job keeping
7 track if we have undertakings as we work through the
8 day or through the week, we'll keep track of those as
9 we go.

10 So I think with that, we're -- unless there's any
11 other preliminary matters for the morning, if anybody
12 has any questions?

13 Hearing none, I think we can get started.

14 We had left off, and originally Mr. Williams with
15 Calalta on our -- had not requested time for cross, but
16 apparently Mr. Williams does have a couple of
17 questions.

18 Mr. Williams, I believe you're going to be
19 connecting via phone on Zoom, if I have that right, but
20 are you connected now?

21 MR. WILLIAMS: I am connected now. Can you hear
22 me?

23 THE CHAIR: We can, very clearly. Thank you.

24 So Mr. Williams, you had a couple of questions for
25 Alberta Transportation. How long did you need?

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Williams

1 MR. WILLIAMS: Probably less than ten minutes,
2 five minutes.

3

4 M. HEBERT, M. SVENSON, W. SPELLER, D. BRESCIA, M. WOOD, D.

5 SOL, J. MENNINGER, Y. CARIGNAN, M. SMITH, M. PERRET

6 (For Alberta Transportation), previously sworn

7

8 MR. WILLIAMS CROSS-EXAMINES THE PANEL:

9 Q. Thank you for the floor, and thank you to the Board for
10 the participation in the hearing.

11 For Alberta Transportation, on your opening
12 remarks yesterday in your presentation in regards to
13 Calalta, you -- on Objection Number 3, we have three
14 objections -- you addressed the first two, and there's
15 no cross on them -- on the third objection on our
16 franchise agreement and the lands, the 14 quarter
17 sections that are sterilized, your opening remarks were
18 that they are commercial in nature and, therefore,
19 you're unsure if it's appropriate for the Board.

20 Can you just explain that statement and what you
21 meant by it, and then I just have a couple questions on
22 that.

23 A. MR. HEBERT: Good morning, it's Matthew Hebert
24 speaking.

25 Mr. Chairman, our view is that the matter raised

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Williams

1 by Calalta impacts relates to its commercial
2 operations. As we clarified in our pre-hearing
3 conference, it is our view that these types of matters
4 are best dealt with between two parties involved,
5 which, in this case, is Alberta Transportation and
6 Calalta. We certainly invite Calalta to continue
7 discussing this matter with Alberta Transportation.

8 Mr. Williams and I have had a number of
9 conferences about this issue, and as we've indicated in
10 both our hearing submission and in the remarks I made
11 yesterday, we are prepared to continue to discuss this
12 item with Mr. Williams and his organization.

13 MR. WILLIAMS: So is it my -- appropriate time to
14 speak?

15 THE CHAIR: Yes, Mr. Williams.

16 MR. WILLIAMS: Okay. Thank you, Mr. Chairman.

17 Q. Matthew, thank you for the response.

18 Just a question with regards to that, have you
19 reviewed the franchise agreement which is a public
20 document that is an agreement between the Alberta
21 Utility Commission, the County of Rocky View, and
22 Calalta Waterworks Ltd.

23 A. MR. HEBERT: Yes, we've had an opportunity to
24 review the document. It's a public document, as
25 Mr. Williams references, so we have had an opportunity

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Williams

1 to review the document.

2 Q. And so, in saying that, and in establishing that the
3 words "commercial in nature," I want the Board to
4 understand that this is a utility, and so even though
5 it is owned by Calalta Waterworks Ltd., that the
6 utility in nature -- the sustainability of the utility
7 has value to all of the stakeholders, community, school
8 children, et cetera, within the Springbank community.

9 We have been recognized in the area structure plan
10 as one of the regional links to -- or the established
11 franchise water providers for future development and
12 for, you know -- for the area.

13 The utility itself has been servicing the area for
14 approximately a 40-year period, and on that are all of
15 the community-related, i.e., all the schools are tied
16 onto this utility. And so even though it's structured
17 as commercial -- and I see it as no different as if
18 you're expropriating lands from a farmer, and a farmer,
19 you know, has the right to earn money from that
20 farmland, the expropriation, he's lost that right.

21 The same precedent that's been set with the
22 County of Rocky View in that compensation was paid for
23 lost tax revenue. Well, that tax revenue supports the
24 county, which supports the community, et cetera.

25 So I do want to establish that, even though we

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Williams

1 were a private utility at one point, but in 2004, we're
2 forced in to be more of a public/private because we
3 cannot set our rates. Any rate structure or anything
4 that we go forward with to increase water rates,
5 et cetera, has to go in front of the Alberta Utilities
6 Commission. And so we are governed by rules --

7 THE CHAIR: Mr. Williams --

8 Q. -- rules of that, and we're also governed by the
9 franchise agreement, which is dual -- you know, it
10 protects the county and stakeholders within the county,
11 and ensures there's controlled regulated water for the
12 community --

13 THE CHAIR: Mr. Williams.

14 MR. WILLIAMS: Sorry, Peter.

15 THE CHAIR: Sorry. Sorry to interrupt.

16 You will have an opportunity to put all of that
17 statement -- I mean, it's on the record now -- but
18 during your direct evidence. Right now is really the
19 time that you can ask the questions of
20 Alberta Transportation under cross, and then that piece
21 of it is probably best suited to when you're giving
22 your direct evidence a little bit later.

23 Q. MR. WILLIAMS: Perfect. Yeah, I just wanted to
24 understand from Alberta Transportation the comment of
25 "commercial in nature," and I guess Matthew, if you

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Williams

1 could just state it one more time that you believe that
2 it's commercial and it's not appropriate to be standing
3 in the Board review?

4 **A. MR. HEBERT:** Mr. Chairman, as we submitted in
5 our pre-hearing conference submission, our view is that
6 these are matters that are best dealt with between the
7 two parties, being Alberta Transportation and Calalta
8 waterworks.

9 As I've indicated to the Board, and to
10 Mr. Williams, Alberta Transportation has an interest in
11 continuing discussing this matter with Calalta
12 Waterworks. We've had some preliminary discussions to
13 understand the issue in greater detail, and we would
14 look forward to continuing those discussions into the
15 future.

16 **Q.** That's excellent, thank you.

17 **MR. WILLIAMS:** Mr. Chairman, I have no further
18 questions.

19 **THE CHAIR:** Sorry, my space bar sometimes
20 works and sometimes doesn't to unmute, so my apologies.

21 Thank you, Mr. Williams, and you are up later on
22 for direct, so if there's other things you wanted to
23 add in your direct evidence, you're welcome to do so
24 then. So thank you.

25 **MR. WILLIAMS:** Thank you.

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Wagner

1 THE CHAIR: Okay, Mr. Wagner. Is Mr. Wagner
2 on?

3 MR. WAGNER: I am here. Good morning.

4 THE CHAIR: Okay, good morning.

5 Mr. Wagner, you had questions on cross-examination
6 for Alberta Transportation?

7 MR. WAGNER: I do. I have a few.

8 THE CHAIR: Okay.

9 **MR. WAGNER CROSS-EXAMINES THE PANEL:**

10 Q. MR. WAGNER: If I could get Document 1701,
11 Appendix B pulled up?

12 THE CHAIR: Which exhibit number is that, by
13 chance? Do you have the exhibit number?

14 MR. WAGNER: I've got Document 1701,
15 Appendix B.

16 MS. FRIEND: This is Laura. That's actually
17 the application number for the old review, Springbank.
18 That isn't an exhibit number, Mr. Wagner.

19 MR. WAGNER: Oh dear.

20 MS. FRIEND: Is it one that you submitted?

21 MR. WAGNER: No, it's -- this is the Natural
22 Resources Conservation Board. It's basically their
23 rebuttal.

24 THE CHAIR: Alberta Transportation's --

25 MR. WAGNER: Yeah, AT's.

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Wagner

1 THE COURT: -- response? A response to the
2 hearing?

3 MR. WAGNER: Yeah.

4 THE CHAIR: That's the -- with all the
5 paragraph numbers, is that the one you're thinking?

6 MR. WAGNER: Yes.

7 THE CHAIR: Okay, is -- Ms. Kaminski, are
8 you --

9 MR. FITCH: Mr. Chair, it's Mr. Fitch. If
10 he's referring to Appendix B to the rebuttal
11 submissions of Alberta Transportation, that should be
12 Exhibit 325.

13 THE CHAIR: Thank you.

14 MR. WAGNER: Just one moment. I'm going to get
15 a pen.

16 MR. FITCH: Sorry, or 327, which would be the
17 appendix.

18 THE CHAIR: Ms. Kaminski, you can -- yeah,
19 leave that active, and then he can grab the other one,
20 327.

21 MR. WAGNER: Yeah. It's the landowner map.

22 MR. SECORD: Yeah, Mr. Wagner, it's
23 Richard Secord here. Are you wanting the landowner --
24 the current map of the --

25 MR. WAGNER: Yes, it's Appendix B.

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Wagner

1 MR. SECORD: Yeah, that's in Exhibit 327 in PDF
2 page 8.

3 MR. FITCH: Thank you very much.

4 Q. MR. WAGNER: In the opening remarks, Mr. Hebert
5 stated that 25 percent of the lands are acquired. I'm
6 struggling to total that up given this map. Is there
7 an update to this map?

8 A. MR. HEBERT: Mr. Chairman, the estimate of
9 approximately 25 percent is calculated with the parcels
10 that are in green on the map. So there are
11 Parcel 11 -- just bear with me as I pull up the
12 screen -- Parcel 38, 37, 25, 22, 36, and 29. It
13 represents the area within the black lines which is the
14 project area itself and represents approximately
15 25 percent of the lands needed for the project
16 development area.

17 Q. If I could get page 55 on this document brought up.
18 No, that doesn't appear to be the right page.
19 Paragraph 211 is what I'm looking for.

20 MS. FRIEND: That might be in Exhibit 325.

21 MR. FITCH: That's what I was wondering.

22 MS. FRIEND: This is Laura. Can you repeat the
23 paragraph number, please, Mr. Wagner?

24 MR. WAGNER: 211.

25 MR. SECORD: Yeah, PDF page 60.

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Wagner

1 Q. MR. WAGNER: In this paragraph, it states:

2 (as read)

3 "Such transactions require a willing
4 seller and a willing buyer."

5 Can the AT describe what the position is of the
6 government as being a willing buyer?

7 A. MR. HEBERT: So willing buyer in this case
8 would mean that Alberta Transportation is prepared to
9 acquire properties needed for the SR1 project within
10 the project development area consistent with the terms
11 of the land acquisition program.

12 The terms of land acquisition program, which is an
13 appendix in our submission -- I won't refer to it, but
14 I'll just flag for the benefit of the panel that it's
15 Appendix A at Exhibit 327. And it describes the
16 principles in which AT pursues negotiations. And those
17 negotiations are rooted in the principles around
18 acquisition in the land -- in the *Expropriation Act*
19 which describe the principles relating to fair
20 compensation for land, exploration of damages, and
21 covering appropriate costs.

22 So in that case, that would be the definition of
23 "willing buyer" in these circumstances.

24 Q. Would you describe the government's position as being a
25 willing buyer?

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Wagner

1 **A. MR. HEBERT:** Mr. Chairman, subject to the
2 ability to negotiate with the landowners within the
3 project development area, we would view ourselves as
4 being a willing buyer. As the paragraph states,
5 Transportations's required to assemble lands within the
6 PDA for the operation of SR1, should it be approved.

7 **Q.** Can we go back to the map again. Can you describe
8 which parties that land is being acquired of being
9 willing buyers -- or willing sellers, sorry?

10 **A. MR. HEBERT:** Sorry, Mr. Chairman, I was muted.

11 In the case of the properties that are labelled in
12 green, I would define those as willing sellers as they
13 entered into agreements with Alberta Transportation
14 pertaining to the sale of the properties.

15 **Q.** With regards to Parcel Number 25, 22, and Number 11,
16 were those willing sellers?

17 **A. MR. HEBERT:** Mr. Chairman, I would say they
18 were -- they were willing sellers. They entered into
19 agreements with Alberta Transportation.

20 **Q.** Were these distressed properties?

21 **A. MR. HEBERT:** Sorry, Mr. Wagner, can you define
22 "distressed"?

23 **Q.** I would say that the -- in this particular case, the
24 banks were involved, and they were in difficult
25 situations which required the liquidation of the

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Wagner

1 property.

2 A. MR. HEBERT: Mr. Chairman, I would -- I would
3 still submit that the -- if the transactions occurred
4 between Alberta Transportation and the -- and the
5 parties involved, those would constitute a willing
6 buyer/willing seller negotiation -- or transactions.

7 Q. Let's deal with properties 20 -- or 36, 37, and 38.

8 Can you give me the exact time that that
9 announcement was made?

10 MR. FITCH: Sorry, Mr. Chair, it's Gavin Fitch
11 speaking.

12 I'm struggling a little bit with the relevance of
13 this question and, indeed, this line of questioning.
14 The date on which Alberta Transportation announced the
15 acquisition of any particular piece of property does
16 not seem to me to be relevant to the Board's public
17 interest jurisdiction unless Mr. Wagner can perhaps
18 clarify why he thinks it is relevant.

19 MR. WAGNER: I go back to the statements of the
20 of Alberta Transportation of a "willing buyer" and a
21 "willing seller." I believe that those were the only
22 properties that there was a willing buyer and a willing
23 seller.

24 And the timing of that was weeks before the last
25 election. I find the timing very odd.

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Cross-examined by Mr. Wagner

1 Q. And my follow-up question to that is, that was, to all
2 my knowledge, a willing buyer and a willing seller.

3 And my question is, has the Alberta government
4 offered that deal, or any similar deal, to any of the
5 other landowners as a willing buyer and a willing
6 seller?

7 A. MR. HEBERT: Well, Mr. -- sorry, I heard some
8 crosstalk.

9 THE CHAIR: Mr. Hebert?

10 A. MR. HEBERT: Thank you.

11 Mr. Chairman, as is described within our land
12 acquisition principles, Alberta Transportation is
13 prepared to enter into negotiations, willing
14 buyer/willing seller, in an effort to assemble the
15 project development -- or the land for the project
16 development area.

17 My -- our position is that each of those
18 negotiations is rooted in the -- in the reality of each
19 particular landowner. We acknowledge and respect the
20 fact that the circumstances of each landowner is
21 distinct. Some landowners -- some of the landowners
22 own straight land, some landowners have residences,
23 some landowners have cultural operations.

24 So I think it would be fair to submit to the Board
25 that each of those particular negotiations will be

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Kennedy

1 unique to the particular circumstances in question.

2 MR. WAGNER: No further follow-up questions.

3 THE CHAIR: Thank you, Mr. Wagner. So Panel
4 and Board staff may have a few questions.

5 Mr. Kennedy, Ms. Vance, we've got -- the floor is
6 yours, and then we'll move to the Panel.

7 MR. KENNEDY: Thank you. Coming through good?

8 THE CHAIR: Yes.

9 MR. KENNEDY QUESTIONS THE PANEL:

10 Q. Mr. Hebert, I think these questions may be answered by
11 you.

12 Interesting when we looked at the aid to cross
13 filed by SCLG, it identified various flow rates between
14 SR1 -- sorry, I'm told my video is not...

15 THE CHAIR: There you go.

16 MR. KENNEDY: There we go, sorry. Let me start
17 that again.

18 Q. The SCLG Aid to Cross 1 identified various flow rates
19 as between the diversion at -- of -- for SR1 and the
20 Glenmore Reservoir.

21 Can you advise what communications
22 Alberta Transportation's had to advise the communities
23 in both Springbank and the City of Calgary about the
24 project and the effects on those communities?

25 A. MR. HEBERT: One moment, Mr. Kennedy.

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Kennedy

1 Mr. Kennedy, I would offer that
2 Alberta Transportation has communicated the flow rates
3 of the project's operation as part of its public
4 communications through open houses, through
5 communications with the municipalities involved
6 throughout the development of the project.

7 Q. And in terms of reaching out to those communities
8 specifically, how did Alberta Transportation do that?

9 A. MR. HEBERT: Mr. Kennedy, if you're
10 comfortable, we can certainly take that away and
11 provide that specific information, if that's -- if
12 that's useful, if you're looking for specific instances
13 where we would have provided that information. Would
14 that -- would that assist?

15 Q. So, specifically, perhaps I think that's -- that's the
16 case -- specifically, you had mail-outs at various
17 times that Alberta Transportation did?

18 A. MR. HEBERT: Hm-hm.

19 Q. And I assume those -- is it fair to assume that those
20 mail-outs went to specific postal codes?

21 A. MR. HEBERT: Yes, it did. We can confirm those
22 postal codes, if that's helpful.

23 Q. And if you could confirm which communities those
24 mail-outs went to and what information those mail-outs
25 included specifically about effects from the project as

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Kennedy

1 opposed to public houses --

2 **A. MR. HEBERT: Right.**

3 **Q. -- public open houses and those kinds of things --**

4 **A. MR. HEBERT: Right. Certainly.**

5 **Q. -- that would be most helpful. And I know the question**
6 **is a bit general, but there was a fair bit of**
7 **discussion yesterday.**

8 **UNDERTAKING - TO CONFIRM WHICH**
9 **COMMUNITIES SPECIFICALLY ALBERTA**
10 **TRANSPORTATION SENT MAIL-OUTS TO AND**
11 **WHAT INFORMATION THOSE MAIL-OUTS**
12 **INCLUDED SPECIFICALLY ABOUT EFFECTS**
13 **FROM THE PROJECT**

14 **Q. MR. KENNEDY: And this question may not be for**
15 **you, Mr. Hebert. Does Alberta Transportation have any**
16 **sense of the ongoing need for berms within the**
17 **City of Calgary upstream of the Glenmore Reservoir?**

18 **A. MR. HEBERT: Mr. Kennedy, no. And as I -- as I**
19 **described yesterday, that would fall within the**
20 **jurisdiction of the local authority involved in terms**
21 **of what those needs might be and location, timing,**
22 **et cetera.**

23 **Q. So I take it from that, you have not had discussions**
24 **with the City about the potential need for berms**
25 **upstream of Glenmore Reservoir within the City of**

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Ceroici

1 Calgary?

2 A. MR. HEBERT: Just conferring with the panel.

3 One moment.

4 Mr. Chairman, on conferring with the panel, I'm
5 advised that the City of Calgary's mitigation plans
6 considered the flow rates of SR1 upstream of the
7 Glenmore project -- sorry, the Glenmore Reservoir.

8 Q. So, Mr. Hebert, I take it from that, you are suggesting
9 that my question might be better posed to the City of
10 Calgary?

11 A. MR. HEBERT: I would suggest that. As
12 indicated yesterday, the decisions around the local
13 mitigations are within the jurisdiction of the local
14 authority.

15 Q. Good. Thank you.

16 MR. KENNEDY: Mr. Chair, those are my questions.

17 THE CHAIR: Thank you, Mr. Kennedy.

18 Ms. Vance?

19 MS. VANCE: I have no questions. Thank you.

20 THE CHAIR: Panel members. Mr. Ceroici?

21 **MR. CEROICI QUESTIONS THE PANEL:**

22 Q. Yes. Good morning. I had a question about the
23 Bragg Creek -- I think yesterday we -- some of the
24 responses we heard that the berms are capable of, we'll
25 call, dealing with a 1 in 100-year flood; then I also

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Ceroici

1 heard, I just want to confirm, that the berms have been
2 increased, the heights recently, and now it's able to
3 handle a 1 in 200-year flood; is that correct?

4 **A. MR. HEBERT:** Mr. Ceroici, according to the
5 information we have from Rocky View County, who are
6 responsible for the Bragg Creek berms, our
7 understanding is that they're designed to 1 in 100-year
8 flood, with a freeboard that provides a level of
9 protection and a level of mitigation equivalent to a
10 2013 event.

11 I'm not exactly certain whether that would be --
12 constitute as a 1 in 200, but our understanding of
13 the -- of the height of the berms is that it would be
14 equivalent to a -- to the 2013 level event.

15 **Q.** To the design flood?

16 **A. MR. HEBERT:** If you're comfortable,
17 Mr. Ceroici, Mr. Speller has some further details he
18 could share on the topic.

19 **Q.** Yes. Please.

20 **A. MR. SPELLER:** And I would just add,
21 Mr. Ceroici -- you may want to pull this up -- it's
22 Exhibit 275. It's the Springbank Community Landowners
23 Group Appendix W, and on PDF page 116 is a presentation
24 from AMEC and Rocky View County about those berms where
25 it describes -- they're designed for a 100-year

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Ceroici

1 floodwater level, they have a freeboard of .6 metres,
2 and at the bottom says, their estimates indicate that
3 the 2013 flood was approximately 20 percent larger and
4 that a 2013 flood would be contained by the proposed
5 freeboard zone.

6 So that information I just spoke to is on that
7 slide and at the bottom, so.

8 Q. Okay, thank you.

9 And Redwood Meadows, they also have some berm
10 works taking place. What are they capable of? Is it
11 similar to the Bragg Creek with the freeboard 1 in 200?

12 You're on mute, I think.

13 A. MR. HEBERT: Mr. Chairman, the Panel isn't
14 aware of that answer specifically. Sorry, we're not --
15 we're not in a position to confirm that response.

16 Q. And, again, for the -- for the Bragg Creek County is
17 responsible for those works, I can't recall from
18 yesterday's discussion, does the same apply for the
19 Redwood Meadows?

20 A. MR. HEBERT: In the case of Redwood Meadows,
21 that falls within the lands of the Tsuut'ina Nation,
22 and they would be responsible for the flood mitigation
23 projects on their lands.

24 Q. Okay. Then yesterday we heard about the emergency
25 spillway. It was estimated that 70 percent of water

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Ceroici

1 flowing over the spillway would make its way to the
2 Elbow. And I'm assuming that was overland flow?

3 A. MR. HEBERT: Mr. Ceroici, Mr. Wood on our panel
4 will assist with that answer.

5 A. MR. WOOD: Thank you. Yes, it is overland
6 flow.

7 Q. So 30 percent essentially is via groundwater; is that
8 correct?

9 A. MR. WOOD: My apologies. Mr. Ceroici, would
10 you mind repeating the question? I was just adjusting
11 my headset there.

12 Q. Right. If we have 70 percent surface water flow, I'm
13 assuming that 30 percent would be infiltrating to the
14 groundwater?

15 A. MR. WOOD: If I may, I'm just going to defer
16 to Mr. Menninger for the specifics on that modelling
17 and the exercise.

18 Q. Sure.

19 A. MR. MENNINGER: Good morning. So I believe -- so
20 you were referring to the emergency spillway for SR1?

21 Q. Right.

22 A. MR. MENNINGER: Correct. So the emergency
23 spillway, as we discussed before, would typically --
24 would not operate for SR1. The intention is that we
25 would close the -- we would close the gates to the

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Questioned by Mr. Ceroici

1 channel before water would enter -- before it would
2 overtop the emergency spillway.

3 So, in that scenario, I think what we described
4 was that the probable maximum flood is approximately
5 2,800 cubic metres per second. If you took 600 cubic
6 metres per second to divert it to the reservoir, then
7 you would have 2,100 going downstream.

8 So that kind of gives you that -- it would stay in
9 the river, in essence. And so given that scenario, you
10 would be looking at rough -- yeah, roughly, that's
11 about 70 percent stays. So that other 30 percent is
12 stored in the reservoir in that consideration.

13 Even with the gates closed -- or even with the
14 gates open scenario, if the gates were failed open and
15 water went over the emergency spillway, you would still
16 store that same amount of water within the reservoir,
17 and then the water would be a mix of that coming out of
18 the emergency spillway and that's staying in the river.

19 But either case, you're about 70 percent or so of
20 the peak.

21 Q. Okay. And, Mr. Menninger, yesterday, maybe I misheard,
22 but in one of your responses, you were referring to the
23 SR1 reservoir, and maybe diversion channel, you
24 mentioned a hundred -- I thought I heard a 100 million
25 cubic metres?

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Questioned by Mr. Ceroici

1 Because I understand the reservoir is 70, but then
2 a safety affect of 7 is 77. So when I heard 100, I
3 kind of was wondering what that means.

4 **A. MR. MENNINGER:** Sure, sure. So -- so what we have
5 in the reservoir is that the elevation of the emergency
6 spillway, which is 12 -- which is -- I know these are a
7 lot of numbers -- but 1210.75 elevation, that is the
8 total storage capacity of 77 million cubic metres, so
9 that's what we have available to store in the reservoir
10 without letting anything out of the uncontrolled
11 spillway.

12 If you were to have a dam -- so that's a 1210.75,
13 so I'll repeat that again, close to 1211. The top of
14 the dam is actually a 1213.5.

15 So if we were to have an issue with water still
16 coming into the reservoir beyond what our designed
17 storage capacity is or intended storage capacity is,
18 there is that volume to act as surcharge and store
19 additional flow.

20 And so when I was referring to that 100 million
21 cubic metres, it's the difference between the 1212,
22 which is our kind of surcharge pool for the probable
23 maximum flood, and the 1210.75. So it's that
24 additional, you know, 30 -- or 23 to 25 or so that
25 would be that surcharge pool to allow to handle that

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Questioned by Mr. Heaney

1 kind of inflow from the -- from a probable maximum
2 flood/accidental increase.

3 Q. I guess I was just wondering if the crest of the
4 spillway essentially is the limit of the 77 --

5 A. MR. MENNINGER: That's correct.

6 Q. -- how would you put in the reservoir without it
7 spilling over the spillway?

8 A. MR. MENNINGER: Correct, yeah. That's perfectly
9 correct. And that's -- that's -- the spillway is there
10 to prevent overtopping of the dam. And so that's --
11 the whole point there is, is that you -- the 77 is the
12 cap, as you said, of intended operations.

13 The spillway is there only in case of an emergency
14 to prevent overtopping of the dam, and so it would
15 discharge flows to safely convey them back to the river
16 and prevent that -- that other -- that other potential
17 option. So that is -- your understanding is correct.

18 Q. Okay. Thanks, that's all my questions.

19 A. MR. MENNINGER: You're welcome.

20 THE CHAIR: Thank you, Mr. Ceroici.

21 Mr. Heaney?

22 MR. HEANEY: Yeah, just want to follow up with
23 Mr. Menninger.

24 MR. HEANEY QUESTIONS THE PANEL:

25 Q. So this surcharge, if there's a surcharge, so the

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Heaney

1 outflow through the emergency spillway is less than the
2 full inflow through the -- through the gates?

3 **A. MR. MENNINGER:** That's the case, that's correct.

4 **Q.** Okay. So you have this surcharge. Where does that
5 surcharge end up in the -- end up in the reservoir?
6 Like, what parts of the reservoir are flooded to a
7 higher level than your 70 -- 70 million cubic metres?

8 **A. MR. MENNINGER:** Sure.

9 **Q.** -- or 77 million cubic metres?

10 **A. MR. MENNINGER:** So, again, this is in the case of
11 a failure or malfunction, so this is a backup, not
12 intended operations.

13 But, in that case, it would utilize the full
14 extent of the reservoir up to the 1212 contour within
15 the reservoir. So it would basically expand.

16 Those -- those reaches and components are within
17 the PDA. They're defined as part of the project limits
18 and boundaries, and would be part of the operational
19 limits of the reservoir for the -- and reserved for
20 that storage capacity.

21 **Q.** So none of the water from this -- if there was a
22 surcharge, none of the water would extend, or the
23 flooding would extend, beyond the PDA?

24 **A. MR. MENNINGER:** That's correct.

25 **Q.** And then the second question I had had to do with waves

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by Mr. Heaney

1 yesterday.

2 A. MR. MENNINGER: Hm-hm.

3 Q. You know, you had -- you had said that the -- you know,
4 the armoring on the wet side of the dam against wave
5 action wouldn't be required because the water level
6 would be dropping.

7 So when you were doing your assessment of that,
8 you know, what happens if the dam is -- you know, at
9 full capacity, and you -- the water isn't released.
10 There's a delay in water release? How long can the dam
11 in its -- without armouring, how long can it tolerate
12 wave action without some serious erosion?

13 A. MR. MENNINGER: That would depend, I believe.

14 So we did not look at -- it wasn't a time
15 sensitive -- we looked at it was more of a
16 risk-associated calculation in terms of the likelihood
17 of having that level stay for an extended period of
18 time.

19 My apologies. One second, I'm sorry.

20 I'm sorry, I had some audio difficulty there. Can
21 you hear me now?

22 Q. Yes.

23 A. MR. MENNINGER: Okay. There we go.

24 The calculation was not time dependent in terms of
25 the volume. I would say that, you know, we anticipate

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Questioned by Mr. Heaney

1 that the turf will sustain wind attack, but also will
2 state that, you know, during an event and when the
3 reservoir is in operations, operating staff will be on
4 site observing the dam and observing potential effects
5 to the reservoir while it's in the storage mode; and
6 that if they do -- if they were to observe erosion at
7 locations along the reservoir, they could take
8 mitigating impacts -- mitigating measures to prevent
9 such scenario in a case of that kind of rare scenario
10 where we hold it for a longer period of time.

11 Q. And what would those mitigating impacts be?

12 A. **MR. MENNINGER:** They would primarily be the
13 addition of erosion protection, in the instances of
14 adding riprap at locations that were experiencing
15 erosion at the time of that occurrence.

16 Q. So back to my original question, are we -- in terms of
17 the erosion protection from the turf and sustained wind
18 action, are we talking days, weeks, months?

19 A. **MR. MENNINGER:** I would say we would be -- I don't
20 have a perfect answer for you on that. Like I said,
21 the calculations aren't dependent on per se a sustained
22 element for long period of time. They were based off
23 of a particular event-based analysis.

24 And so my apologies, I don't necessarily have an
25 answer for the extended period of time. But I think

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Questioned by Ms. Roberts

1 within -- within a couple months we're comfortable with
2 that -- with that level of protection.

3 Q. Okay, thank you. I have no further questions.

4 THE CHAIR: Ms. Roberts?

5 MS. ROBERTS QUESTIONS THE PANEL:

6 Q. Yeah. Yesterday, there was a quite a bit of discussion
7 about the diversion channel design capacity, and, you
8 know, just looking at our topics, I'm not sure if this
9 is best addressed under Topic 3, but it was mentioned
10 yesterday. So I will ask it now.

11 I'm curious as to why design capacity for 80 cubic
12 metres per second was chosen with allowance for
13 25 percent additional up to 600 cubic metres per
14 second.

15 A. MR. MENNINGER: Sure. So the 480 is the bare
16 minimum necessary to mitigate against the 2013 flood
17 event for -- you know, basically, we have to send a
18 certain volume of water to SR1 to mitigate the 2013
19 flood event and, in particular, to meet our stated goal
20 of that 170 downstream of Glenmore.

21 So the 480 cubic metres per second would take off
22 that volume over the length of the design flood event.

23 The operations during a flood event have some
24 inherent give and take, so you're not going to be
25 constantly hitting a perfect 480 cubic metres per

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Questioned by Ms. Roberts

1 second.

2 We also acknowledge that there be entrainment
3 potentially of sediment and debris and other
4 components. So given those uncertainties, we increased
5 the capacity of -- we made sure that we could have that
6 fluctuation go from 480 all the way up to 600 cubic
7 metres per second and allow for scenarios. If we
8 divert slightly less for a period of time, we get
9 increased diversion to catch up, or if they wanted to
10 operate it slightly differently and, as mentioned
11 before, increase capacity during that peak to offset
12 further.

13 So that's why there's that larger range. 480 is
14 required to meet our goal, but we use 600 to design our
15 channel and our structures to make sure that we had
16 flexibility and operations, as well as some of these
17 other elements that were mentioned previously in terms
18 of potential needs for, you know, changes to the flood
19 frequency and other elements of various forms and
20 things like that in the future. So it provides us with
21 kind of a buffer.

22 Q. Okay. And again, what I'm wondering is in 2013, the
23 documents state that the peak was 1,240 cubic metres
24 per second, I believe.

25 A. MR. MENNINGER: Hm-hm, that's correct.

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Questioned by Ms. Roberts

1 Q. So with that, if 480 is what's required to be diverted,
2 then 1240 minus -- 1240 minus 480 is then what has been
3 determined to be acceptable peak flow downstream?

4 A. MR. MENNINGER: So that's -- in particular, the
5 480 is based off of that -- meeting that criteria
6 downstream of Glenmore.

7 So yes, that would be an acceptable operation
8 range to meet the stated project goal of mitigating
9 downstream of Glenmore. But as stated, that we can go
10 up to 600 and can mitigate to a higher level than is
11 required by the stated design goal and purpose.

12 Apologies. Just one second. We can call up a
13 figure if it will be helpful. If we could,
14 Exhibit 102.

15 THE CHAIR: I think Ms. Cundliffe is working
16 on it.

17 Ms. Cundliffe, are you accessing that exhibit?

18 MS. FRIEND: Peter, this is Laura. She has to
19 go to the main exhibit list. It's not preloaded, so.

20 A. MR. MENNINGER: I mean, and we can -- yeah, so the
21 exhibit that we're trying to call up shows the
22 hydrograph of the 2013 flood and how we segmented it
23 into pieces.

24 So page 22, please.

25 THE CHAIR: PDF page or is that --

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Questioned by Ms. Roberts

1 A. MR. MENNINGER: I'm sorry, this is not -- this is
2 not the exhibit I was looking for. It was 102. Should
3 be pretty quick.

4 THE CHAIR: Quicker than the old days when we
5 had to all snoop into our binders.

6 A. MR. MENNINGER: Okay, there it is.

7 So this is -- this is for the 600 cubic metre per
8 second diversion, but it does demonstrate the same
9 performance as what would happen with either scenario
10 where -- so the -- all-encompassing lines shown here on
11 the graph is the hydrograph for the 2013 flood event.
12 The -- the bottom of the line, that hatched area, is
13 the flow that basically safely passes through Glenmore,
14 that 160 to 170 cubic metres per second. So none of
15 that is stored by the Glenmore Reservoir.

16 So the intent here is to then divert up to that
17 600, which is the -- kind of the lighter hatched area.
18 That's the -- that's the bulk of the volume that goes
19 into SR1. And then the remainder, which is the squared
20 hatch that's a little bit darker is what passes
21 downstream of the project to Glenmore and is stored.

22 So as seen in this image, there's a portion of
23 that flow that goes downstream basically, 160, plus --
24 well, basically in this scenario 640 cubic metres per
25 second at the peak, but there's that slug of water that

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Questioned by Ms. Roberts

1 continues downstream and then at the end, after the
2 reservoir -- after the SR1 is completely full, then
3 there is a secondary piece that then is stored at the
4 end of the event.

5 So in this case, it uses the 10,000 dams cubed at
6 Glenmore, both in the front and backside of the flood
7 event for storage.

8 But that's, in essence, how the system works in
9 combination where it does allow some peak flow to come
10 through past SR1, but then uses -- stores the bulk of
11 the hydrograph within the reservoir.

12 Q. MS. ROBERTS: So -- so then, as you have
13 explained, is your -- your primary criteria, then,
14 for -- for the design and for the numbers that you've
15 chosen has to do specifically with what is allowed
16 downstream of the Glenmore Reservoir which is the 170;
17 is that correct?

18 A. MR. MENNINGER: That -- that is correct. That's
19 been the communicated criteria and goal stated for the
20 project from the start. So I've been involved since
21 2014, and that was to this date -- this document's
22 actually from April of 2015. And I believe a version
23 of this figure has been in the majority of our
24 communications on the project with -- with the
25 communities.

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Questioned by The Chair

1 Q. Okay, thank you. That's all.

2 THE CHAIR: Thank you, Ms. Roberts.

3 I have a couple of questions.

4 **THE CHAIR QUESTIONS THE PANEL:**

5 Q. One in relation to the benefit cost analysis. We --
6 you know, there's been a lot of discussion on the
7 benefit cost, how it was conducted, and then different
8 time periods between the early -- the first benefit
9 cost in 2017, 2019, and it's been characterized as some
10 apples to oranges because of the time sequencing, of
11 how much information was known about SR1 later versus
12 conceptual design of MC1. But I guess I'm wondering
13 about even back in the early days on the benefit cost
14 analysis, it was one piece of information that was
15 used, I presume, to select sites, but how much weight
16 was given to the benefit cost analysis. So there was a
17 number of factors from what we are hearing in terms of
18 environmental impacts of the different projects, taking
19 of private lands versus Crown land, in situ, in river
20 versus off-stream. So there's these factors, but what
21 weighting of the benefit cost analysis was given when
22 you were looking at site selection?

23 A. MR. HEBERT: Mr. Chairman, it was -- it was one
24 component of several that the government of Alberta
25 looked at in making its determination.

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Questioned by The Chair

1 I'd invite Mr. Speller to provide some of the
2 methodology and background of where the benefit cost
3 analysis ranked -- fit into the decision made by the
4 government of Alberta.

5 A. MR. SPELLER: So, Mr. Chairman, it's
6 Wayne Speller. We talked about this specific item in
7 SIR previously. I'm just going to -- you don't have to
8 pull it up, but I'll point to it for the transcript.
9 So it's Exhibit 138, and it was -- it's on PDF page 38
10 of Exhibit 138. And that -- we looked yesterday at one
11 point at the AEP 2015 recommendations for Elbow River
12 flood mitigation document, and it -- and Mr. Secord was
13 asking us questions about different pieces. That
14 actually, I have found so far going through all of the
15 decision-making documents and in talking to folks that
16 were involved in the decision-making, is the best
17 summary of the issues at play in the decision-making.
18 So they were project effectiveness, environmental
19 impacts, construction and operation risks, social and
20 recreational values, commercial and tourism values,
21 construction cost estimates, and construction
22 timelines.

23 The benefit cost analysis is a subset of the
24 construction cost estimates piece. So it was one piece
25 of those seven factors.

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Questioned by The Chair

1 In talking to the folks involved in the
2 decision-making, there wasn't a specific scoring system
3 put together, but in terms of weighting, in terms of
4 importance, they indicated that the project
5 effectiveness discussion of will it work was the
6 primary -- it was almost more like a gate than the
7 decision factor; it was the top. Followed after that
8 in terms of prioritizing, environmental impacts,
9 construction and operation risks, construction
10 timelines, and then construction costs. And those are
11 kind of the top four of the -- of the six remaining
12 with social -- social recreational values and
13 commercial tourism values as being the last two.

14 Q. And both MC1 and SR1 were determined to, in terms of
15 your initial gate, they both worked in --

16 A. MR. SPELLER: Yes.

17 THE CHAIR: -- at that initial gate.

18 A. MR. SPELLER: They both met the project
19 effectiveness gate.

20 I mean, the one thing that I think is important,
21 in the selection process, even though it was identified
22 there was potential challenges with construction, maybe
23 the geology tied to MC1, there was never a point where
24 it was said that MC1 was not a feasible project. It
25 just wasn't the selected project. SR1 had a number of

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Questioned by The Chair

1 advantages that made it the front runner out of those
2 two.

3 Q. Okay, thank you. And one other question related to I
4 guess construction costs which you say was one of the
5 main determining factors that went into BC, but it
6 wasn't the BC that was -- PCA perhaps that was the
7 determinative factor, it was mentioned in both in
8 submissions to the hearing about the initial estimates
9 on land costs, which went from I think 80 million --
10 and Transportation clarified the SCLG submission was 80
11 million to 140 million -- was the initial cost estimate
12 land -- were professional land appraisals used to give
13 you an idea in terms of what that land cost might be,
14 or what was the main reason behind the relatively large
15 discrepancy between the initial estimates of 80 million
16 and 140 million?

17 A. MR. HEBERT: Bear with us one moment,
18 Mr. Chairman.

19 Mr. Chairman, Mr. Sol is able to provide an answer
20 to the question.

21 THE CHAIR: Thank you, Mr. Sol.

22 A. MR. SOL: Thank you. I'm with the
23 IBI group, and we did the original land estimate. And
24 we worked with an appraiser for that, and we did a
25 number of detailed analyses; it was all desktop,

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by The Chair

1 though. And we looked at first parcel out and other
2 entitlements, and weren't basing it on land use
3 entitlements. And so that was where the original
4 estimate was arrived from.

5 Subsequently after AT had undertaken negotiations,
6 that's when the revised number came in.

7 So the answer is yes, the original estimate was --
8 was a due diligent appraisal.

9 Q. Thank you. And one last question I have is related to
10 the -- well, I suppose Bragg Creek, as well; but,
11 primarily, the area between SR1 and Glenmore, we've
12 talked a bit about that this morning, there was some
13 other questions from the Panel on that, as well,
14 Transportation has indicated that, within the city
15 limits of Calgary the area between -- or, I'm sorry,
16 Glenmore and the city limits is sort of the
17 responsibility of the City of Calgary has been your
18 answer in terms of what potential residual funding
19 might still occur on any impacted lands there.

20 So I guess I'm curious about, how do you
21 differentiate between that land and whose
22 responsibility it is, and the City of Calgary land that
23 is downstream of Glenmore, which is also the
24 responsibility of the City of Calgary, how is that
25 differentiated between your response to the flood,

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Questioned by The Chair

1 which is all that occurring -- well, or the main piece
2 of the project was for the City of Calgary downstream
3 of Glenmore -- how did you differentiate between those
4 two areas and say what is City of Calgary's
5 jurisdiction versus yours?

6 **A. MR. HEBERT:** **So, Mr. Chairman, that's a good**
7 **question.**

8 So, as a matter of operating principle, the local
9 authorities are responsible for flood mitigation. The
10 distinction with the SR1 application with the response
11 to Bragg Creek, with the response to Redwood Meadows,
12 all related to the impacts of the 2016 -- sorry, the
13 2013 flood, their magnitude, impact on people, the
14 communities, the economy.

15 So it would appear to be a bit of a contrast, but
16 the projects, SR1, Bragg Creek, response to Redwood
17 Meadows, constitute the response to the 2013 flood.

18 The general operating principle on mitigation
19 projects in the normal course are -- are matters of
20 responsibility of the local authority involved,
21 determination of whether they're needed, whether
22 they're practical, whether -- whether resources are
23 available to proceed with those types of projects, and
24 that's -- that's the distinction in this case.

25 **Q.** So just to follow up then, I'm not sure I totally have,

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by The Chair

1 you know, sort of the -- I'm not sure if it's a
2 numerical analysis that's done, but if you look at
3 Canmore, which also has damages and Bragg Creek and in
4 Calgary, how does the government decide, then, when it
5 is the government responsibility, provincial government
6 responsibility versus local responsibility?

7 **A. MR. HEBERT:** No, that's a fair -- fair
8 question, Mr. Chairman.

9 In this case, the Government of Alberta took a
10 decision in the aftermath of the 2013 flood to provide
11 or to advance flood mitigation projects in direct
12 response to the event that occurred in 2013.

13 And that -- that is the distinguishing factor that
14 the government of the day, and as they've advanced the
15 projects and provided funding to Bragg Creek and
16 Redwood Meadows, all links back to the need to -- to
17 respond, to prevent the recurrence of the damage and
18 the impacts that were experienced in the 2013 event.

19 And that's -- that's the -- that's the rationale
20 even though we're now almost eight years out, the
21 government has -- has had a mandate of ensuring that
22 the areas the communities most significantly impacted
23 in the 2013 event have appropriate mitigation going
24 forward.

25 **Q.** Thank you. Mr. Kennedy or Ms. Vance, anything in

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by The Chair

1 follow-up?

2 MR. KENNEDY: Nothing from me, thank you,
3 Mr. Chair.

4 MS. VANCE: Nor I, thank you.

5 THE CHAIR: Okay, thank you, Mr. Hebert, and
6 to the Panel of Alberta Transportation. So we are
7 complete on cross.

8 We can now move onto the City of Calgary
9 direct...I think I have that right, I hope I have that
10 right.

11 So we could change panels now and have Ms. Senek.
12 Are you online?

13 MR. FITCH: Sorry, Mr. Chair, it's
14 Gavin Fitch.

15 I think this would now be the opportunity for
16 Alberta Transportation to do any redirect should we
17 want to for this Panel, but I can advise that we do not
18 have any redirect.

19 THE CHAIR: You do not. Okay, thank you. And
20 you're quite correct. I'd like to say I just guessed
21 right --

22 MR. FITCH: That's quite all right, sir.

23 THE CHAIR: So, Ms. Senek, City of Calgary.

24 MS. SENEK: Hello, Mr. Chairman, I'm here, and
25 we've got Mr. Frank Frigo with us as well today.

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by The Chair

1 For the record, my name is Melissa Senek. I,
2 along with my colleagues, David Mercer and Sara
3 Munkittrick are counsel for the City of Calgary.

4 I'd like to start with a brief introductory
5 statement before introducing our witness.

6 The 2013 floods were devastating across southern
7 Alberta. In Calgary, specifically, thousands of
8 Calgarians were displaced or their homes were
9 destroyed. Calgary's downtown core, the economic
10 centre of Alberta, was virtually cut off from the rest
11 of the City.

12 The city suffered hundreds of millions of dollars
13 of damage to public infrastructure. More than
14 one-third of the damage suffered in Calgary was
15 directly attributable to overland flooding on the
16 Elbow River.

17 As you'll hear throughout this hearing, a flood
18 like the 2013 floods or worse could strike again at any
19 time. The city is unable to fully mitigate a flood of
20 that magnitude within city limits.

21 SR1 is critically needed to provide that
22 mitigation on the Elbow River. If approved, SR1, in
23 combination with the Glenmore Reservoir, will virtually
24 eliminate overland flooding from the Elbow within the
25 City of Calgary for a 2013 level flood. It will

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Questioned by The Chair

1 mitigate and minimize overland flooding for floods of
2 higher magnitudes, and it will provide additional flood
3 mitigation for the Bow River below its confluence with
4 the Elbow, protecting not only billions of dollars of
5 private property and public infrastructure, but also
6 the physical and mental well-being of the tens of
7 thousands of Calgarians.

8 As will be further detailed by the City's witness,
9 the social and economic benefits of SR1 are staggering.
10 Given its off-stream design, any impacts will be
11 temporary and short-lived, and any operational risks
12 are remote.

13 The City looks forward to providing evidence and
14 answering questions related to the anticipated effects
15 of SR1 on the city of Calgary and its overwhelming
16 benefit to Calgarians.

17 It is the City's view that SR1 is necessary,
18 clearly in the public interest, and should be approved
19 as soon as possible.

20 At this point, it is probably a good time to swear
21 in Mr. Frigo.

22 Mr. Frigo, are you there?

23 THE CHAIR: Mr. Frigo, is perhaps your
24 microphone on your headset muted? We can't see that
25 part.

ALBERTA TRANSPORTATION TOPIC #1 PANEL

Questioned by The Chair

1 MR. WIEBE: I would suggest that you unplug
2 your headphones.

3 MS. FRIEND: This is Laura, ensure that your
4 headphones aren't plugged into your laptop.

5 THE CHAIR: Then you may need to go to where
6 your mute button, that little arrow is there, and reset
7 to "same as system."

8 So that little arrow by your mute, and you can
9 select a microphone. It may be still be selected to
10 "headset," you need to select to "same as system," if
11 you're working on a laptop.

12 MS. SENEK: Perhaps we can take a minute for
13 Mr. Frigo to sort out his -- maybe it's a good time for
14 the break?

15 THE CHAIR: It's a little early --

16 MR. FRIGO: Mr. Chair, Mr. Chair, we've got it
17 now.

18 Good morning, can you hear me now?

19 THE CHAIR: Yes.

20 MR. FRIGO: Is that audio quality acceptable?

21 THE CHAIR: It's definitely loud enough. Can
22 everyone hear Mr. Frigo? If someone cannot, please --

23 MR. KENNEDY: I think our court reporter is
24 struggling, so.

25 THE CHAIR: Try again, Mr. Frigo.

FRANK FRIGO

Examined by Ms. Senek

1 MR. FRIGO: I have audio now.

2 THE CHAIR: It's a little raspy, but

3 Ms. DiPaolo can you understand Mr. Frigo? So-so.

4 Let's take 5 minutes, Mr. Frigo and Mr. Wiebe, if
5 you can also work with Mr. Frigo --

6 MR. WIEBE: Yes.

7 THE CHAIR: -- we can get that rectified.

8 Folks, let's take 5 minutes. Watch your screens,
9 though, because if we get it rectified, we'll start up
10 right away; otherwise, five minutes.

11 (ADJOURNMENT)

12

13 **FRANK FRIGO** (For The City of Calgary), sworn

14 **MS. SENEK EXAMINES THE WITNESS:**

15 Q. Mr. Frigo, can you please confirm that the summary of
16 your education and experience provided at page 4 of
17 Exhibit 229 is accurate?

18 A. **Yes, I can. Confirmed.**

19 Q. Thank you. And you are employed with the City of
20 Calgary as "Leader, Watershed Analysis" in the Water
21 Resources Business Unit; correct?

22 A. **That is correct.**

23 Q. Could you please describe for the record your education
24 and experience?

25 A. **I can. I am a hydrotechnical water resources engineer**

1 with 24 years of experience. The last 13 of those
2 years, so since 2008, I have been leading
3 hydrotechnical teams within the City of Calgary,
4 focusing again on various elements of water resources
5 management including: Applied hydrology, hydraulics,
6 morphology, water quality, water supply, floodplain
7 mapping and inundation mapping.

8 The teams that I oversee encompass various flood
9 resilience and flood response measures including: The
10 annual monitoring and forecasting of floods; working
11 with our team at water treatment at Glenmore Reservoir
12 to manage water levels at Glenmore Reservoir to
13 mitigate floods; and various related work.

14 Q. Thank you. And can you please describe for the record
15 your role and involvement in the 2013 flood?

16 A. Certainly. At the time, I was the leader of river
17 engineering, a team within water resources, responsible
18 for the preparation and planning of flood response
19 activities within the city of Calgary; also responsible
20 for the monitoring and forecasting of floods on the
21 Elbow River to again inform the operation and
22 management of the Glenmore Reservoir.

23 Q. Thank you, Mr. Frigo. And, finally, can you please
24 explain the history of your involvement in this
25 specific application?

FRANK FRIGO

Examined by Ms. Senek

1 A. Certainly. Again, prior to 2013, having led the river
2 engineering team and leading a team of hydrotechnical
3 engineers within the City, it was also a very core role
4 after 2013 for me to be involved in directing my team
5 around many of the hydrotechnical, morphologic,
6 economic, and engagement activities that the City
7 undertook to address, build, and implement a flood
8 resilience strategy for the city of Calgary.

9 Q. Thank you. And I understand that you have a
10 presentation prepared for the Panel this morning, and
11 that has been provided in advance to -- to Ms. Friend.
12 So if that presentation could please get loaded.

13 And Mr. Frigo, please go ahead with your
14 presentation. Thank you.

15 A. **MR. FRIGO:** Thank you, Ms. Senek.

16 Good morning. And can we please advance, document
17 manager specialist, to the next slide? Thank you very
18 much.

19 As noted by Chairman Woloshyn during his opening
20 address, Calgary was founded at the confluence of the
21 Bow and Elbow Rivers. Both rivers drained land
22 dominated by steep, high elevation mountain terrain are
23 subject to widespread heavy rainfall and have limited
24 natural lake or reservoir storage. This creates
25 potential for flooding that, among Canadian population

1 centres, is unique in its combined speed and severity.

2 The City grew up around the confluence before the
3 risk was widely understood in the manner that it is
4 today.

5 What is perhaps notable to many hydrologists who
6 review flood records for the Elbow River is not that
7 floods occurred in the late 1800s through to the early
8 1930s and again in 2005 and 2013, but that it did not
9 flood more often, especially while Calgary and region
10 evolved between the 1930s and 2005.

11 Next slide, please.

12 This risk translates to flood inundation mapping
13 that is stark. One in 200-year flood event mapping
14 shows that within the hydraulic benefit area of SR1,
15 8.9 square kilometres of dense high-functioning urban
16 fabric would be inundated. This includes 4.5
17 kilometres squared along the Elbow River encompassing
18 the Beltline, Mission, downtown, East Village and other
19 communities that contain over 3,100 buildings with a
20 net assessed value in the range of \$86 billion.

21 Since the 1980s, land use has been regulated to
22 provincial flood hazard maps and policy; however, the
23 community-wide flood exposure creates evacuation,
24 utility, and transportation risks, and very
25 importantly, economic disruption that remains severe,

1 especially for events more rare than the regulatory
2 1 in a 100-year flood.

3 Next slide, please.

4 Sadly, the risks are far from theoretical.
5 June 2013's flood event punctuates that the risk that
6 Calgary and region live with as an artifact of the
7 beautiful river basins that they are part of.

8 In 2013, net losses in the range of approximately
9 \$2 billion were sustained. Calgary, very
10 unfortunately, recorded its third fatality since 2005.

11 2013 has left enduring health and wellness
12 impacts. I must pause to stress to the Board that
13 further human life safety risk is intolerable to the
14 City, and that both emergency response and resilient
15 strategies prioritize human life safety above other
16 objectives that include the sustainment of critical
17 infrastructure and operations, protection of public
18 economic assets, and a protection of private property
19 and the environment.

20 Next slide, please.

21 I've spoken much of the risk, and here's where the
22 story changes.

23 Much has been done, and, for Calgary, an important
24 step after 2013 was the creation of its expert
25 management panel on river flooding which engaged

1 experts from across Canada.

2 The panel broke the topic of flooding in Calgary
3 into six themes and created 27 recommendations across
4 those themes to guide Calgary's pathway to a resilient
5 future.

6 The panel showed us that, with the scale of the
7 issue, resilience would be complex, involving the
8 interaction of multiple resilience measures working
9 together, some of which would simply not fit within the
10 scale of the municipality. With this guidance, the
11 City set about coordinating with the government of
12 Alberta and other stakeholders to study, combine, and
13 compare local and regional, structural and
14 non-structural mitigation measures.

15 The City and the government of Alberta agreed that
16 the City would lead investigation and configuration of
17 measures within the city, where as the province,
18 primarily Alberta Environment and Parks, would lead
19 study and configuration of resilience elements outside
20 of the city limits.

21 Next slide, please.

22 This led to an interactive program of
23 investigation that involved a suite of hydrotechnical
24 studies, economic and impact assessments, engineering
25 and conceptual cost analyses and, very importantly,

1 various forms of engagement with citizens.

2 Engagement helped us to refine our understanding
3 of how organizations, businesses, residents -- in a
4 word, citizens -- were impacted by flood and how their
5 values around watershed management could be
6 incorporated into resilience plans.

7 Next slide, please.

8 Within this process, along with the consultant
9 team led by Mr. Sol with the IBI group developed the
10 object-based flood damage assessment tool that was
11 mentioned yesterday.

12 The digital mapping tool combines various datasets
13 to estimate net financial damages for floods of varying
14 severity throughout Calgary. By accounting for the
15 recurrence interval of the damages, this allowed us to
16 understand Calgary's net flood exposure and also to
17 test the performance of combinations of conceptual
18 alternatives to see which would perform the best. With
19 this analysis, a sustainability analysis was also
20 completed for aspects that could not readily be
21 monetized. Damages from events of different recurrence
22 interval were then combined and converted into an AAD,
23 or annual average damage, not unlike the uniform
24 payment amount of a mortgage.

25 Next slide, please.

1 Application of the damage calculator and all of
2 the work behind the configuration of resilient
3 scenarios culminated in a 2017 council-endorsed flood
4 resilience strategy. The strategy highlighted key
5 measures that the City would pursue and support. These
6 included a backbone of structural mitigation measures
7 integrated with a suite of non-structural measures that
8 would be best configured once the residual risk
9 remaining would be structural measures in place could
10 be developed.

11 For the Elbow River, this included the Glenmore
12 dam crest gates and the Springbank off-stream
13 reservoir, which by then had been further studied by
14 the province.

15 Next slide, please.

16 In reaching the 2017 resilience strategy, numerous
17 alternatives were configured and assessed. Listed here
18 are elements that were studied and assessed.

19 Importantly for the Elbow River communities, three
20 years of modifications to the Glenmore dam were
21 completed in 2020, roughly doubling the live storage
22 from 10 to 20 million cubic metres and offering the
23 ability for events up to about the 1 in 30-year -- the
24 1 in 30 severity event, to be attenuated to the
25 downstream threshold of major damage, which we've

1 discussed is in the 150 to 170-cubic metre per second
2 range.

3 Other smaller, more local improvements were also
4 completed during the -- including hydraulic capacity
5 increases, drainage and lift station improvements.
6 Numerous other measures were studied and set aside for
7 a range of reasons that included engineering
8 performance, operational aspects, implementation and
9 lifecycle costs, social, and environmental aspects.

10 Next slide, please.

11 Importantly, the implementation of Calgary's
12 resilience plan reached an important milestone in 2020
13 with approximately 54 percent of the net exposure that
14 was present in 2013 averted by measures collaboratively
15 put in place with the government of Alberta and other
16 water management stakeholders.

17 Using the damage calculator, we understand that
18 SR1 will eliminate an incremental \$27.7 million
19 annually, eliminate most of the remaining risk
20 associated with the Elbow River and Bow River
21 communities downstream of the confluence.

22 Not accounted for in this 27.7 million is the
23 increment in flood response flexibility that arises due
24 to the risks averted by SR1's benefit area. This area
25 represents over 40 percent of the emergency actions in

1 Calgary's flood emergency reference manual. With many
2 of these actions averted, greater resources and time
3 would be available to protect and secure communities on
4 the Bow River, even upstream of the confluence of the
5 Elbow, and outside of the hydraulic benefit area of
6 SR1.

7 Next slide, please.

8 Together, SR1 and Glenmore provide appreciable
9 storage relative to the basin that is serviced.
10 Internal analysis by hydrotechnical engineers within
11 our river engineering team show that the two reservoirs
12 will have a dramatic impact on severe flood events
13 beyond Glenmore's capacity alone.

14 As reported in Exhibit 229, the two reservoirs
15 working together can reduce events up to the 1 in
16 200-year severity to damage threshold of 160 cubic
17 metre per second or the natural 1 in 5-year flow.

18 From larger events, the significant storage still
19 offers dramatic peak flow and damage reduction
20 potential. As such, reservoir storage is adaptive to
21 and beneficial for flood events of severity even
22 greater than the design event.

23 I will pause here to clarify that communities
24 upstream of Glenmore Reservoir within the City of
25 Calgary were regulated at the time of development in

1 the late 1980s and the 1990s to the flood hazard maps
2 and the modelling encompassing a 1 in 100-year flow
3 rate of 883 cubic metres per second. So no barriers or
4 other mitigation have been identified for communities
5 upstream of the Glenmore Reservoir.

6 I will note that damages did occur in some of
7 these communities in 2013, but that is because the peak
8 flow rate above Glenmore was 1,240 cubic metres per
9 second, not 880, and as the system had been regulated
10 to.

11 Next slide, please.

12 SR1's impact is perhaps even more dramatic when
13 viewed in the form of comparative inundation mapping.
14 This slide shows an excerpt of maps included in
15 Exhibit 229 that show the difference in inundation for
16 1 in 200-year event. Red, no SR1; yellow, the river
17 channel with SR1.

18 Again, the difference represents 4.5 square
19 kilometres of developed urban fabric on the Elbow River
20 and approximately 8.9 kilometres square of total
21 incremental inundation representing an asset class in
22 the order of \$86 billion.

23 For areas like Bridgeland, Inglewood, Bonnybrook,
24 Deerfoot Meadows, Riverbend, Quarry Park, and
25 communities downstream of Calgary, the reduction in

1 peak flow translating downstream would increase the
2 apparent service level, mitigation and land use
3 regulation already in place.

4 Next slide, please.

5 Again, the single event impact of SR1 is stark.
6 SR1 will improve flood performance and limit
7 mitigation -- or pardon me, mitigate damages for events
8 all the way up to the 200-year event and larger.

9 For a single event of a 100-year severity, we
10 would expect that over a billion dollars of direct
11 damages would be averted. For 1 in 200-year event, the
12 design event, almost \$2 billion of direct damage would
13 be averted.

14 These values annualize to approximately
15 \$27.7 million, of which 20 million is understood to be
16 associated with Elbow River communities based on our
17 work with IBI, and 7 million on Bow. So approximately
18 one-third of the benefits are accruing to communities
19 downstream of the Elbow River confluence on the Bow and
20 two-thirds to communities upstream, including the
21 downtown, Mission, Beltline area.

22 Next slide, please.

23 In terms of benefit and cost, as identified in
24 Exhibit 229, the City of Calgary understands that that
25 \$27.7 million AAD, or annual average damage, would

1 extend to over \$2.7 million straight multiplied over
2 the next hundred years. This is more than five times
3 the estimated probable cost of the \$432 million
4 estimate for the SR1 project.

5 The City believes that this approach to assessing
6 the cost and benefit analysis is appropriate due to a
7 number of factors that are not directly recognized or
8 accounted for in the benefit cost analysis prepared by
9 IBI. These include the potential for increases in
10 averted damages due to climate change -- sorry, can we
11 go back to the previous slide -- exclusion of aspects
12 of averted flood damages, things like benefits outside
13 of Calgary, which were not evaluated in the damage
14 estimates, health and safety elements which could not
15 be reliably monetized, and enhanced emergency response
16 efficacy, as I spoke of earlier.

17 Another factor is the long design life of major
18 elements of SR1's infrastructure.

19 Again, the asset that is being protected is the
20 urban fabric of the City of Calgary. This is subject
21 to revaluation and continual investment as the city
22 changes and develops.

23 Further, the refinement of operations that may
24 optimize operational costs could limit the operations
25 in the future.

1 As mentioned, the Glenmore Reservoir can manage
2 flow events of up to the 1 in 30 without utilizing any
3 of the storage in Glenmore, though the backflow trigger
4 is much higher than the 160-cubic metre per second at
5 which the operational strategy for SR1 would begin
6 diverting into SR1.

7 So, for a number of smaller events that may occur
8 in the future, it would be possible to potentially use
9 Glenmore Reservoir and not divert it into SR1, thereby
10 avoiding many of the costs associated with post-flood
11 reclamation, management, and monitoring.

12 Next slide, please.

13 This brings us to the conclusions that the City of
14 Calgary has drawn around SR1. These are that flood
15 risk for Calgary and the region will endure or
16 intensify.

17 In the years since 2013, exposure has been
18 drastically reduced but remains very high. Elbow River
19 flood damages will be in the order of 2 to \$3 million
20 over the next hundred years unless additional
21 mitigation is undertaken.

22 Comprehensive technical, economic and engineering
23 analysis, and engagement from 2013 to 2017 informed
24 council-endorsed resilience strategy.

25 Local and non-structural mitigation won't be able

FRANK FRIGO

Examined by Ms. Senek

1 to adequately address flood risk. Watershed skill
2 resilience measures are needed.

3 Analyses have shown that SR1 is effective,
4 adaptive and a practical measure that will avert life
5 safety, building and content damages, economic,
6 business and social disruption, including for events
7 larger than the designed 2013 event.

8 SR1 will avert over \$1.1 billion of damages in a
9 single 1 in 100-year severity flood. SR1 returns
10 regional skill benefits significantly greater than its
11 costs.

12 Thank you. That concludes our presentation.

13 THE CHAIR: Thank you, Mr. Frigo.

14 Ms. Senek, was there anything else in direct?

15 MS. SENEK: Nothing else in direct, thank you.

16 THE CHAIR: Okay, well, thank you.

17 So parties not adverse, you can start with

18 Canadian River Communities Action Group --

19 MR. CUSANO: No, thank you, sir.

20 THE CHAIR: No questions?

21 MR. CUSANO: None, thank you.

22 THE CHAIR: Alberta Transportation?

23 MR. KRUHLAK: We have no questions, sir.

24 THE CHAIR: Mr. Rae on behalf of

25 Stoney Nakoda?

FRANK FRIGO

Cross-examined by Mr. Rae

1 MR. RAE: Yes, sir. Thank you. We do have
2 a number of questions for the witness.

3 THE CHAIR: In fact, I think you've identified
4 kindly with Mr. Kennedy earlier, you may require about
5 an hour; is that right?

6 MR. RAE: I believe that is what we
7 requested, yes, sir.

8 THE CHAIR: Thank you, Mr. Rae. You may
9 proceed.

10 MR. RAE: Thank you, sir.

11 **MR. RAE CROSS-EXAMINES THE WITNESS:**

12 MR. RAE: I'd like to start off by asking
13 the Panel if I could have another document added to the
14 exhibit list?

15 This is a letter from Mayor Nenshi, 2018, to the
16 Canadian Environmental Assessment Agency.

17 I've provided a copy that letter to the Board
18 staff and to Ms. Senek, and if it's acceptable to you,
19 Mr. Chairman, I'd like to have that as an exhibit, and
20 I believe it would be Exhibit 348 if that's acceptable
21 to the Panel.

22 THE CHAIR: And that has already been
23 distributed to who, sorry?

24 MR. RAE: To the Board staff, as well as to
25 Ms. Senek with the City of Calgary.

FRANK FRIGO

Cross-examined by Mr. Rae

1 THE CHAIR: Are there objections?

2 MS. SENEK: The City does not have any
3 objections to entering the letter as an exhibit,
4 although we would remind Mr. Rae that Mr. Frigo cannot
5 speak for the City's elected officials.

6 MR. RAE: Would it be possible to have that
7 letter put on the screen? It was provided to the staff
8 a couple of days ago. Exhibit 348 was the putative
9 number. That's the number. Thank you very much.

10 Q. Mr. Frigo, do you do you recognize this letter?

11 A. I do.

12 Q. And can you explain to me, what was the purpose of the
13 letter?

14 A. The letter was prepared in support of the Springbank
15 Off-Stream Reservoir.

16 Q. And is it fair to say the letter is seeking, what Mayor
17 Nenshi labelled as an expedited review of the SR1
18 project?

19 A. I understand that's the content of the letter, yes.

20 Q. And on what basis did the City of Calgary wish to have
21 an expedited review?

22 A. It is my understanding, through working with both
23 counsel and senior levels of administration, that flood
24 resilience is a key priority, key capital investment
25 priority, for the City of Calgary, final to its

FRANK FRIGO

Cross-examined by Mr. Rae

1 development.

2 In that sense, the City of Calgary remains
3 significantly exposed to flood risk as addressed in the
4 presentation recent -- that I just went through. My
5 understanding is that the mayor was aiming to address
6 the fact that the City of Calgary is very much
7 committed to and very much in need of additional flood
8 resilience.

9 Q. In the second sentence of the second paragraph of that
10 letter, Mayor Nenshi mentions that: (as read)

11 "The Springbank project will protect
12 infrastructure, private property, and
13 help prevent flood damages to Calgary's
14 economic engine, that is, the downtown
15 core."

16 Do you see that sentence?

17 A. I do, sir.

18 Q. In the 2013 flood, was the majority of the damage to
19 the downtown core a result of flooding on the Bow or
20 the Elbow Rivers?

21 A. It was a combination, but there is a very significant
22 component of impact in the downtown core, including
23 east Village, portions of the downtown, that were
24 impacted by the Elbow River.

25 The Elbow River has what we call "paleochannels,"

FRANK FRIGO

Cross-examined by Mr. Rae

1 abandoned channel scrolls on the surface of the
2 floodplain. These are locations where the river used
3 to exist.

4 These exist through communities, including through
5 Mission, through Beltline, and, importantly, leading
6 north from Macleod Trail toward the downtown.

7 So a significant amount of the damage that
8 occurred in the downtown was directly related to
9 Elbow River floodwater by its conveyance via these
10 paleochannels to the north and through the downtown.
11 If you will, we speak of the Elbow River as flooding
12 downtown via the back door.

13 So certainly, sir, it was a combination of both
14 the Bow and the Elbow River, though the Elbow River
15 represented a very significant portion of that.

16 Q. So attached to the letter, I believe, on -- would be
17 the third page, PDF page 3, if you turn to that, is the
18 document you see in the screen in front of you.

19 On that page we have in front of us, the very
20 first paragraph refers to -- well, I'll quote:
21 (as read)

22 "The Government of Alberta's agreement
23 with TransAlta has further decreased
24 flood risk on the Bow River in Calgary."

25 Do you see that sentence?

FRANK FRIGO

Cross-examined by Mr. Rae

1 A. I do, sir.

2 Q. What is that sentence referring to? What is the
3 agreement it refers to?

4 A. In 2016, the Government of Alberta and TransAlta struck
5 a deal to be able to enter an agreement to be able to
6 have modified operations of the Ghost Reservoir, as
7 well as the reservoirs on the Kananaskis system, so
8 Upper and Lower Kananaskis Reservoirs. This allowed
9 the Alberta government to, in advance of flood season,
10 and prior to an event, provide direction to TransAlta
11 in terms of setting water level at the Ghost Reservoir,
12 allowing for additional flood mitigation capacity.

13 This was also considered in the -- in terms of
14 water supply from the standpoint that the upper and
15 lower Kananaskis reservoirs, which sit very high in
16 their relative catchments and are not particularly
17 useful for flood mitigation, but are useful for
18 reservoir storage, can then refill the Ghost Reservoir.

19 So, in that 2016 agreement, which had a term of
20 five years and is set to be renewed this year, was
21 about a modified water operations that would secure
22 both greater water -- water supply security, as well as
23 flood resilience for communities downstream on the Bow.
24 That would include city of Calgary, Cochrane,
25 et cetera.

FRANK FRIGO

Cross-examined by Mr. Rae

1 Q. Is the Ghost Reservoir, in part, located on the
2 Stoney Indian Reserve?

3 A. I understand it is, yes, sir.

4 Q. Now, this agreement of which you speak, did it provide
5 for payments from the province of Alberta to TransAlta
6 Utilities?

7 A. My understanding is that it does, yes, sir.

8 Q. And have the amount of those payments been exhibited as
9 part of this hearing?

10 A. I'm not certain if they have been exhibited. I do know
11 that they have been communicated publicly in various
12 forums.

13 Q. And does this agreement provide for payments from the
14 province of Alberta to the City of Calgary?

15 A. No, not that I'm aware of.

16 Q. Does the agreement provide for payments from the
17 province of Alberta to the Stoney Indian Band or the
18 Stoney Nakoda Nations, whom I represent?

19 A. No. Not that I'm aware of, sir.

20 Q. Sir, would you undertake to produce an unredacted copy
21 of this agreement for exhibiting in front of this
22 Panel?

23 A. I would suggest --

24 MS. SENEK: Sorry. This is Melissa Senek
25 again. This is not a City of Calgary agreement. I

FRANK FRIGO

Cross-examined by Mr. Rae

1 don't know that it's appropriate for the City of
2 Calgary to undertake to produce it.

3 MR. RAE: Well, the City of Calgary has
4 expressly said that this agreement further decreased
5 the flood risk on the Bow River. I don't see how it
6 would be considered irrelevant to these proceedings.

7 MS. SENEK: We can certainly look into whether
8 we have access to it in that -- in that fashion, and
9 see what we can provide.

10 But, again, it's -- I'm not necessarily saying
11 it's irrelevant. I just don't know that the City has
12 access to what's being requested.

13 **UNDERTAKING - TO MAKE ENQUIRIES AND, IF**
14 **AVAILABLE, PROVIDE AN UNREDACTED COPY**
15 **OF THE AGREEMENT BETWEEN THE GOVERNMENT**
16 **OF ALBERTA AND TRANSALTA AS DESCRIBED**

17 Q. MR. RAE: Mr. Frigo, would you be able to
18 advise the amount of the payments from TransAlta
19 Utilities -- or to TransAlta Utilities under this
20 agreement?

21 A. My understanding is that, the public communication has
22 been that this is in order of \$5.5 million per year.

23 Q. And have those numbers and those amounts been
24 considered by the Calgary -- by the City of Calgary in
25 its cost benefit analyses of the various options, flood

FRANK FRIGO

Cross-examined by Mr. Rae

1 control options?

2 **A. The impacts of the flood mitigation have been**
3 **considered, yes.**

4 **Q. No, I'm referring to the payments to TransAlta**
5 **Utilities.**

6 **A. I believe they have. I would need to verify that, but**
7 **I do believe they have, yes.**

8 **Q. So I'd ask you to turn to, I believe it would be the**
9 **page 5, PDF page 5, of this exhibit, which was page 3**
10 **of the attachment. One more page, perhaps. Oh, no,**
11 **that's the right page, sorry. Back to that page.**

12 Now, sir, on the first paragraph under Figure 3,
13 the statement is made: (as read)

14 "With SR1 in operation, the City will be
15 able to focus more of its resources for
16 emergency response on the Bow River,
17 where around 85 percent of the City's
18 flood risk will remain after SR1 is
19 built."

20 Is it the City of Calgary's evidence that that statement
21 continues to be accurate?

22 **A. Yes.**

23 **Q. Now, later on in the next paragraph under "Flood Damage**
24 **Reduction," thank you, reference in that paragraph is**
25 **made to some 2,000 properties with buildings downstream**

FRANK FRIGO

Cross-examined by Mr. Rae

1 of the Glenmore Reservoir on the Elbow River. You see
2 that reference?

3 **A. I do, sir.**

4 **Q.** Now, as part of the City of Calgary's advocacy for
5 upstream storage on the Bow River, and I might add that
6 two of the three options being considered, involve
7 additional flooding of the Stoney Indian Reserve, in
8 making that statement about 2,000 properties downstream
9 of the Glenmore Reservoir, was that at all compared
10 with the number of residents on the Stoney Indian
11 Reserve who would be displaced by additional flooding
12 of the Bow River through the Stoney Indian Reserve?

13 **A. Not for any internal analyses for the City of Calgary,**
14 **no, sir.**

15 **Q.** Do you know if the province of Alberta has done that
16 analyses?

17 **A. I'm not certain whether they have done that analyses,**
18 **though the City has cooperated and participated in the**
19 **province's Bow River reservoir options process in its**
20 **second phase of the conceptual design, I would expect**
21 **that that has been address; however, I'm not directly**
22 **aware and have not been involved in an analysis of that**
23 **type.**

24 **Q.** And the Government of Canada, given that we're talking
25 about the Bow River, which is under federal

FRANK FRIGO

Cross-examined by Mr. Rae

1 jurisdiction, the Stoney Indian Reserves, which are
2 also under federal jurisdiction, and given that two of
3 the TransAlta -- existing TransAlta hydro dams on the
4 Bow River are also licensed federally, are you aware
5 whether the Government of Canada has addressed that
6 issue that I just put you?

7 **A. I am not, sir.**

8 Q. Now, if you turn to -- if we might scroll down to the
9 next page in this exhibit, at the top of the page,
10 under the bullet heading, "Source Water Protection,"
11 reference is made there to: (as read)

12 "Land in the upstream watershed that
13 would otherwise be subject to
14 agricultural practices is retained in an
15 undeveloped state."

16 And that is labelled as having a positive benefit for
17 source water quality. Do you see that reference?

18 **A. I do.**

19 Q. Is the City of Calgary advocating that additional lands
20 upstream of the City of Calgary be taken out of
21 agricultural production?

22 **A. Relative to the Springbank Reservoir option, we**
23 **understand that the post-reservoir uses would include**
24 **passive recreation and First Nations uses. These are**
25 **consistent with the goals of a source water protection**

FRANK FRIGO

Cross-examined by Mr. Rae

1 **plan.**

2 Q. But does not that bullet expressly state that the
3 City of Calgary is suggesting that taking upstream
4 lands out of agricultural production is in fact a
5 benefit?

6 A. **I'm not certain that it does imply that at all. I am**
7 **suggesting that reservoir operations for the likes as**
8 **they have been configured for elements like SR1 would**
9 **contribute to positive source water protection effects.**

10 Q. Are you stating that, should additional lands upstream
11 of the city of Calgary be taken out of agricultural
12 production, that also would result in a positive
13 benefit for source water quality?

14 A. **Potentially, depending on those operations.**

15 Q. Sorry, which operations?

16 A. **The agricultural operations.**

17 Q. Well, the statement is the City of Calgary -- I presume
18 it was referring to agricultural operations as those
19 are presently practiced upstream of the city of
20 Calgary?

21 A. **Yes.**

22 Q. Is the City of Calgary suggesting that taking those
23 types of agricultural operations out of production
24 would have a positive benefit for source water quality?

25 A. **Depending on those agricultural operations, all land**

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1 uses have impacts on water systems, including impacts
2 to quality and quantity of water. Very important to
3 consider in overall water management plans.

4 Q. If we could turn to the last page of this exhibit.
5 Thank you.

6 In the first paragraph at the top of that page,
7 the statement is made that, as a result of land use
8 regulation, other non-structural measures, what the
9 results would be.

10 What's the anticipated completion date of any
11 upstream storage on the Bow River?

12 A. My expectation and understanding, from participation in
13 the Bow River reservoir options work led by the
14 province, is that it would be a fairly protracted
15 horizon, that we would be looking at in excess of --
16 certainly in excess of five years and likely in excess
17 of a decade.

18 As the Bow River reservoir options studies are
19 still in a very preliminary state, that horizon is yet
20 unclear, so certainly could be clear greater than a
21 decade.

22 Q. And what is the level of protection that the city of
23 Calgary is seeking through the construction of upstream
24 storage on the Bow River?

25 A. Through the damage estimation calculations that we've

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1 done with the IBI Group, through internal analysis, we
2 have targeted a service level in the order of the
3 200-year or 0.5 percent annual exceedence probability
4 as the objective for flood resilience for Calgary
5 communities.

6 Q. Just so I'm clear, you said the 1 to 200-year flood
7 level? Not the 1 to 100-year?

8 A. That's correct. So through land use regulation, we
9 would regulate to naturalize, so unattenuated flow
10 rates for the 1 in 100-year event.

11 With additional mitigation, elements including
12 structural mitigation in communities, things like local
13 barriers in communities like Sunnyside, the downtown,
14 we would increase that.

15 There is a recognition within the City of
16 Calgary's flood resilience strategy that, where risks
17 are greatest, that is, where population and economic
18 resources, particularly, critical infrastructure,
19 things like health care facilities, critical utilities
20 are concentrated, even higher levels of service are
21 appropriate.

22 So, in short, we're aiming for the highest level
23 that we can achieve through land use regulation, we
24 have aimed to meet the minimum standard of 1 in 100 by
25 layering other elements of resilience on top of that,

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1 we're aiming for much higher than that.

2 Again, nominally, across Calgary, 1 in 200, but we
3 aim to have even higher than that.

4 We do believe that the circle of analysis and
5 reevaluation of risks will be a continual one, that
6 flood risk mitigation will not end with any single
7 mitigation strategy, and that forces will change and
8 evolve.

9 How land is used, how populations utilize land,
10 economic, environmental, and other considerations will
11 lead us to a continual re-evaluation of our process.
12 Nominally 1 in 200, but, obviously, we're seeking to
13 limit the risk to as great a degree as possible.

14 Q. The evidence provided by Alberta Transportation was
15 based on the provincial and Alberta Transportation is
16 arguing the federal standard of 1 to 100. Do you
17 recall hearing that evidence from the City of Calgary?

18 A. I do, sir.

19 Q. And yet you're saying the City of Calgary is seeking a
20 level of protection of the 1 to 200-year flood. That's
21 what you just said.

22 A. That's correct. That's correct. Through the
23 combination of layered mitigation and resilience
24 measures working synergistically.

25 Q. And on what basis do you feel that the City of Calgary

1 is, I'll use the word, "entitled" to a level of
2 protection greater than the level of protection that is
3 the provincial standard everywhere else in the
4 province?

5 **A. The City of Calgary does not believe it's entitled to a**
6 **greater level of resilience, it believes that that**
7 **resilience is warranted based on the density of human**
8 **life safety, economic, and environmental risks**
9 **associated with flooding in our communities, as well as**
10 **the severity and speed of the flood response of our**
11 **basins upstream, our natural basins upstream.**

12 **Q. And when I ask this question, please don't take it**
13 **pejoratively, but is it the evidence of the City of**
14 **Calgary that the city of Calgary, in particular, the**
15 **downtown core, is more important than outlying areas,**
16 **and, quite frankly, more important than the Stoney**
17 **Indian Reserve?**

18 **A. No, sir. We would identify literally that the**
19 **population, life safety, environmental, and economic**
20 **risk associated with flooding the city of Calgary are**
21 **of significant impact. We then quantify that impact**
22 **through various technical studies.**

23 **Q. Would you agree, sir, though, that if an upstream**
24 **Bow River storage reservoir flooded the**
25 **Stoney Indian Reserve for the sake of flood protection**

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1 of downtown Calgary, would you agree, sir, that that
2 would be based on the value judgment that downtown
3 Calgary is subjectively more valuable than the
4 Stoney Indian Reserve?

5 **A. In the configuration of any flood resilience measure,**
6 **we would participate and aim to ensure that impacts to**
7 **any and all parties were minimized.**

8 **Q. And how would you minimize the impacts of a flood that**
9 **literally flooded parts of the reserve along the**
10 **Bow River? Can that be minimized?**

11 **A. It is possible, I would expect, with different**
12 **reservoir designs, different operational strategies, to**
13 **limit the risk and/or to look at other mitigation**
14 **measures, just as in the city of Calgary, that would**
15 **complement that major structural measure. That might**
16 **involve various approaches.**

17 In the city of Calgary, raising land, like I
18 mentioned in Discovery Ridge, that community upstream
19 of the Glenmore Reservoir, before development was
20 approved, land -- land was raised by the importation of
21 structural fill to create a higher surface there so
22 that the development would not be impacted by floods in
23 a given severity. Elements like this may or may not be
24 appropriate for various communities.

25 In the city of Calgary, we've undertaken to

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1 address the combination of potential mitigation
2 measures and derive an optimal blend or scenario of
3 mitigation measures that can work synergistically to
4 that high level of flood resilience we spoke of
5 earlier.

6 Q. Sir, what I hear you saying is you're equating flood
7 mitigation of a natural flood, you're equating that
8 with deliberate inundation of land for the purpose of
9 creating a permanent reservoir. Surely, those are
10 different things, are they not?

11 A. They are certainly different in many aspects; however,
12 they are similar in that both would be -- or both sets
13 would be aimed at flood mitigation and water resources
14 management in general.

15 Q. Yes, but for the people currently occupying, using and
16 living, and the land to be flooded, there's no
17 mitigation possible. The land would be taken out of
18 use and they would have to move. Is that not correct?

19 A. I haven't analyzed that. I wouldn't be able to comment
20 on whether that's possible or not.

21 Q. Sir, could I have you turn to Exhibit 231, and if I
22 could ask that that be put on the screen.

23 Sir, do you recognize this document?

24 A. I do.

25 Q. Can you tell me what it is?

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1 A. It is a summarizing document that takes the very
2 complex work completed for the City of Calgary by the
3 IBI Group, and additional consultants, and summarizes
4 that information.

5 Q. And does the information in this exhibit, which is
6 dated March 30th, 2017, does this information continue
7 to be the evidence of the City of Calgary?

8 A. What I would advise is that additional -- additional
9 exhibits have been provided because what the City of
10 Calgary has done -- I mentioned the incremental
11 evaluation of flood impacts and mitigation measures,
12 that has been ongoing continuously.

13 So, since 2017, additional analyses have been
14 commissioned by the City of Calgary, by the IBI Group,
15 to address the changes in flood mitigation that have
16 occurred within our area.

17 So though the information was correct, very much
18 at 2017, there is information that supercedes and has
19 been included in the City of Calgary's submission to
20 the Board.

21 Q. Near the bottom of --

22 A. Specific --

23 Q. Sorry?

24 A. Sorry, I was just going to add that, specifically, it
25 is Exhibit 2-3-0, 230, that summarizes some of the more

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1 recent analyses completed by IBI on behalf of the City
2 around damage estimates.

3 Q. Well, on that note, you'll see at the bottom of the
4 page before us, at the bottom, the statement:
5 (as read)

6 "Neither groundwater inundation nor
7 flood damage estimates were fully
8 validated or calibrated to historic
9 events due to a lack of data to complete
10 such analysis."

11 Since 2017, has the City of Calgary, together with the
12 work that you just referred to carried out by IBI, have
13 you now obtained that further analysis you referred to
14 in this document?

15 A. I'd like to clarify that the work that IBI did did
16 encompass groundwater and other mechanisms of damage.
17 It is just that the information to calibrate and
18 validate that information was less -- was less complete
19 than certainly for a surface inundation.

20 So during the IBI work, one of their
21 subconsultants, which was Golder Associates, completed
22 hydrogeologic assessments where they modeled
23 groundwater levels, and that was very much part of the
24 damage calculations that were included in all of the
25 IBI analyses. It was just that verification with the

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1 complexity of the impacts in 2013 of whether it was
2 groundwater or surface inundation that reached the
3 building first and caused the majority of damage was
4 very difficult to discern based on the available
5 records from 2013 and 2005.

6 Q. So are you saying that information continues to be
7 absent?

8 A. No, sir, I'm saying the information around groundwater
9 damages was accommodated in the IBI scenarios; it just
10 could not be validated to the same extent that damages
11 associated with surface flooding were.

12 Q. And that continues to be the case?

13 A. Yes, sir.

14 Q. Now, the next paragraph, and I'll quote it: (as read)
15 "The monetized costs and benefits
16 captured in the damage model included
17 those impacts that were judged by the
18 consultant to be applicable and
19 quantifiable."

20 Does the City of Calgary agree with the judgment of the
21 consultant that's referred to in that sentence?

22 A. Yes. We were involved with the consultant team and
23 recognized that many aspects, for instance, life safety
24 and environmental performance, would be very difficult
25 to directly monetize.

1 Recognizing that leaving these components out
2 would only make the analysis more conservative in that
3 those effects were appreciable, we allowed the -- we
4 directed the study to continue in that manner.

5 Q. So is it fair to say that that study has subjective
6 analysis?

7 A. I would say that virtually every study does. I would
8 say, to the greatest extent that we could, we validated
9 the information with the rather horrible calibration
10 point of 2013 in our direct review mirror.

11 Q. Were the costs of upstream reservoirs, such as those
12 proposed for the Stoney Indian Reserve, have those been
13 monetized?

14 A. They have for various components of the analysis with
15 IBI. We recognize a number of staff with the river
16 engineering team, including myself, do have experience
17 in terms of the design, operation, and costing of
18 reservoirs. These estimates were general in the orders
19 of hundreds of millions, not dissimilar to the
20 estimates coming from the Bow River reservoir options
21 which again placed those types of investments in the
22 order of hundreds of millions of dollars.

23 Q. And has that information been provided to the Stoney
24 Nakoda Nations?

25 A. The IBI analyses are all public. All of this

1 information pertaining to the City of Calgary studies
2 have been made public on public websites. I don't know
3 that it has been directly provided to Stoney Nakoda in
4 a direct fashion via email or some other direct
5 transmittal.

6 Q. The next paragraph makes a reference to what the
7 City of Calgary refers to as a triple bottom line
8 analysis. Can you explain to me what you mean by
9 "triple bottom line"?

10 A. Within the City of Calgary, decisions that are taken
11 are aiming to address what we call "the triple bottom
12 line," which is analysis that encompasses not just the
13 economic or financial components of a project or
14 proposal, but also the environmental and social.

15 So the triple -- the three prongs of the triple
16 bottom line would be the social, environmental, and
17 economic or financial components of a project or
18 initiative.

19 Q. The concluding paragraph on this page states that the
20 conclusions have been prepared with a specific SR1
21 application and within the specific regulatory context.
22 Has that regulatory context changed since 2017?

23 A. Since 2017, the government of Alberta has been working
24 on a number of aspects of flood resilience, one of
25 which is work around flood hazard area designation and

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Cross-examined by Mr. Rae

1 policy associated with that.

2 The City has worked with the government of
3 Alberta, so that remains very much in flux. Obviously
4 the flood events of 2013, flood events in other
5 communities, Fort McMurray, Drumheller, et cetera, have
6 motivated the province to reevaluate policies
7 associated with land use regulation and flood hazard
8 area designation, in part to inform municipalities so
9 that more informed decisions and choices can be made
10 around mitigation as well as land use regulation.

11 Q. If we could turn the page to the next page in this
12 exhibit. And at the top of the page, the first
13 complete paragraph, the second paragraph -- and it
14 looks like your lawyer's got a hold of this document,
15 Mr. Frigo. It states that any use of this report is
16 subject to the above qualification -- qualifications
17 and limitations. And then it goes on to say:
18 (as read)

19 "The City of Calgary makes no commitment
20 to maintaining, updating, or training on
21 the model."

22 Can you elaborate what you or what -- what you're
23 attempting to say about that statement?

24 A. What was recognized is that we're in a very dynamic
25 time post-2013 where mitigation measures, policy

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Cross-examined by Mr. Rae

1 discretions, are all very much live, as is evidenced by
2 our discussion today.

3 We were aiming, through that statement, to make
4 sure that any user of this information would understand
5 that it would be, in part, their responsibility to
6 confirm with the City of Calgary how information might
7 be -- might be used.

8 Q. Has the City of Calgary confirmed with any
9 representatives of the Stoney Nakoda Nations in regards
10 to this report?

11 A. I'm not aware of whether anyone has, sir.

12 Q. Does it intend to do so?

13 A. I'm not aware of any intention to do so or intention
14 not to.

15 Q. And is there a reason why the City of Calgary is
16 neutral in that regard?

17 A. Our understanding is that through the Bow reservoir
18 operations -- or, pardon me, Bow reservoir options
19 assessment work, again led by the province, that
20 numerous stakeholders, including your clients, were
21 involved. In that regard, we weren't aware that any
22 specific communication might be warranted; however, I'm
23 not aware of all of the communications that would occur
24 between our organization -- the organization I work for
25 and your clients.

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Cross-examined by Mr. Rae

1 Q. The City of Calgary has expressly stated that it is an
2 advocate for an upstream storage reservoir or
3 reservoirs on the Bow River. If you're an advocate,
4 why would not the City of Calgary be communicating with
5 the Stoney Nakoda people, rather than the province of
6 Alberta?

7 A. Simply because we're not leading that investigation.
8 The work on the Bow reservoir operation -- or Bow
9 reservoir options assessment is being led by the
10 province. It is extra municipal, and therefore, we
11 would expect that the province would be the lead
12 communicator in terms -- in terms of that initiative.

13 Q. And you say that, with full knowledge, that, clearly,
14 the majority, the vast majority of benefits to such an
15 upstream storage reservoir, the clear beneficiaries
16 would be the City of Calgary, would they not?

17 A. I would say that a significant amount of the flood
18 benefits would accrue to the City of Calgary, but, in
19 that, the Bow reservoir options assessment is also
20 aiming to meet other water management objectives,
21 including water supply, water quality, various other
22 water management objectives. Those would accrue to the
23 community at large.

24 I'm not certain whether it'd be a fair
25 characterization other than perhaps on flood mitigation

1 only due to the City of Calgary's very large exposure,
2 again related to the density of both population,
3 critical infrastructure and assets within the City of
4 Calgary that could be impacted from a flood
5 perspective.

6 Q. So it's your evidence there are a number of factors and
7 a number of benefits, and presumably costs, to an
8 upstream Bow River reservoir in addition to simple
9 flood management; is that correct?

10 A. It is my understanding that the Bow reservoir options
11 assessment being led by the province is aimed at what
12 we refer to as total water management. So yes, very
13 much, flood mitigation is an aspect, but it's certainly
14 not the only aspect.

15 Water supply within the basin, I believe, is also
16 a significant consideration of the province and is very
17 much an element of interest for the City of Calgary, as
18 for all other water users.

19 Q. Is hydroelectric generation potential an additional
20 factor?

21 A. I'm not aware of whether the province has identified
22 that directly. I would think it would be very much a
23 consideration.

24 Q. The payments to TransAlta Utilities from the province
25 of Alberta that we were earlier discussing, are those

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Cross-examined by Mr. Rae

1 related to hydroelectric potential and losses?

2 A. I would expect that some element may be related to
3 hydroelectric generation potential. Some element may
4 be related to complexities in reservoir management and
5 water licensing impacts as a result of the agreement.

6 Q. And is the City of Calgary's ENMAX Corporation involved
7 in any of those discussions?

8 A. I'm not aware that they are, no, sir.

9 Q. Could you turn to I believe it's PDF page 10 of this
10 exhibit?

11 MR. MERCER: Good morning, Chairman. May I
12 just intervene for one second here? It's David Mercer
13 on behalf of the City of Calgary.

14 I'm concerned that this line of questioning is
15 going well beyond SR1. It's going into matters of
16 electrical generation, the Crown duties to consult,
17 which are things well beyond the City of Calgary's
18 jurisdiction, well beyond the expertise that
19 Mr. Frigo --

20 We've given a lot of latitude. I just wanted to
21 raise that for the Board's consideration.

22 THE CHAIR: And Mr. Rae, I would agree that,
23 you know, if there is a string or an attachment that
24 this line of questioning brings back to the Elbow, even
25 in terms of alternatives, I think the Board was

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Cross-examined by Mr. Rae

1 relatively clear in our prehearing report that we would
2 discuss alternatives that was on the table, but
3 primarily those alternatives were really on the Elbow.
4 And it seems that a fair amount of your questioning is
5 directed at the Bow. And I guess if there's some line
6 that we can see that would attach back, I'd appreciate
7 seeing that line, but right now, it's a little
8 difficult to sort of connect the dots, so.

9 MR. RAE: Mr. Chairman, I appreciate the
10 point.

11 Part of the role of the Natural Resources
12 Conservation Board is to examine the public purpose of
13 the SR1 project and what is in the public interest.
14 And I think the evidence earlier this week from Alberta
15 Transportation to the effect that the SR1 project is
16 part of a combined set of flood control options,
17 together with the written evidence of the City of
18 Calgary to date, which we would submit suggests that
19 the SR1 project and the benefits it's going to provide
20 are only part of the puzzle.

21 I think it's incumbent on this Board that it be
22 aware in determining the public interest of the SR1
23 project, it's incumbent on the Board that it be aware
24 of all the pieces in the puzzle. That's the only
25 reason I'm developing this line of questioning in

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1 regard to the other parts of the puzzle.

2 But I appreciate, Mr. Chairman, your point, and I
3 can advise that I will move on, and my remaining
4 questions will not be pursuing the hydroelectric
5 potential of the Bow River reservoir, I can assure you
6 about that.

7 THE CHAIR: Thank you.

8 Q. MR. RAE: So, Mr. Frigo, the page in front
9 of you, the very top of the page, makes -- the first
10 sentence talks about risk reduction and mitigation
11 later on.

12 Can you explain to me the distinction between risk
13 reduction and mitigation?

14 A. In general terms, "mitigation" means offsetting a risk;
15 "risk reduction" can involve other ways of changing
16 exposure.

17 In general, when we talk about risk, it is the
18 severity, the frequency that combined to create that
19 risk, and then mitigation can opt -- or offset that.

20 The other component is simply reducing exposure.
21 The City of Calgary is interested in all aspects of
22 resilience. That has been very much a component of
23 what we have been doing.

24 Q. And, further, can you elaborate on what is meant by
25 non-structural mitigation?

1 A. Certainly. Things like land use regulation, things
2 like education of our citizens. Many new Calgarians
3 move to areas and don't have a good appreciation, have
4 not lived in a jurisdiction where the kind of risk and
5 the kind of speed of response exists.

6 So non-structural mitigation generally means
7 things that aren't engineered and sitting in the
8 ground; things that are, you know, related to policy,
9 to communication, to various other processes that don't
10 end up in engineered infrastructure being put in place.

11 Importantly, in the city of Calgary, this has
12 included consideration of land use regulation. In
13 2014, the City of Calgary updated its land use bylaw to
14 improve and strengthen the regulation around the
15 100-year standard we talked about earlier, and,
16 importantly, it has included a significant amount of
17 engagement which is at least, in part, represented by
18 our annual flood awareness program by which we're
19 trying to help Calgarians understand, businesses,
20 citizens, organizations, understand the risk in their
21 community and take measures proactively.

22 What was recognized, working with the expert
23 management panel is that all levels of government and
24 individual citizens, corporations, and organizations
25 would all need to play a role working synergistically

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Cross-examined by Mr. Rae

1 to meet the high level of resilience the City of
2 Calgary was aiming for.

3 Q. Under the heading of "Study Objectives", point Number 1
4 talks about the main objective of the City of Calgary
5 and the study is to "Develop and apply a reliable,
6 transparent and repeatable calculation process." Do
7 you see that reference?

8 A. I do.

9 Q. Now, given our earlier discussion on the pages previous
10 about the model not being something that third parties
11 can rely upon and not be something that -- and not
12 something that the City of Calgary is going to update,
13 can you reconcile those statements for me? How can
14 this model be repeatable if it's not going to be
15 updated?

16 A. Oh, yes -- the statement on the first page was just
17 advising that the conditions and the application of the
18 model in 2017 was representative of the best
19 information at the time.

20 Of course, that information is very dynamic. The
21 asset class itself is changing, so what is being
22 protected is changing, its valuation is changing with
23 economic circumstances, and certainly mitigation
24 measures within the city of Calgary are being pursued.

25 So what we're trying to develop is a reliable and

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1 robust process, but, of course, the data inputs going
2 into that are continually changing. And, certainly,
3 that's an aspect that comes into any consideration of
4 costs and benefit.

5 But, certainly, not that the paragraph referenced
6 earlier was aiming to suggest that the calculation
7 process was not robust and repeatable. More so, that
8 the inputs would be dynamic and that it would be at
9 least, in part, the consumer of the information's
10 responsibility to maintain or understand that that
11 information was prepared in 2017 with the best
12 information at the time, and that conditions were
13 dynamic.

14 Q. Now, in paragraph number 2, under "Study Objectives,"
15 reference is made to the phrase "return period." Can
16 you tell me what is meant by that phrase?

17 A. Certainly. We recognize that hydrologic events occur
18 with different frequency and severity, though not
19 unlike many other stochastic or probabilistic types of
20 processes, floods can be, if we have a long enough
21 record, fitted to probability distributions that allow
22 us to make inferences about the frequency of flood
23 events that may occur in the future. This allows us to
24 understand, if you will, full population or range of
25 flood events that could occur.

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1 So a common parlance, a common way of recognizing
2 the severity of floods is to speak in terms of the
3 return period, and this is a very problematic
4 terminology because what "return period" often implies
5 is 1 in 100-year event occurs once in a hundred years.
6 That's somewhat incorrect.

7 What the analysis and statistics actually mean is
8 that the deviser, 1 over 100, or 1 percent, is the
9 annual exceedance probability. So, in any given year,
10 a 1 in 100-year event should be interpreted as having a
11 1 percent chance of occurrence in that year, similar
12 for a 1 in 2, all the way to 1 in 200, or 1,000 or --
13 any return period.

14 Q. Thank you. That is in fact very helpful.

15 In that same paragraph, it's stated that:
16 (as read)

17 "The City of Calgary looked at various
18 flood affected communities."

19 Now, I don't need to turn to it now, but has the City of
20 Calgary segregated the costs and benefits for each
21 affected community in the city of Calgary?

22 A. We have the ability to do that with the IBI damage
23 model. So one of the inputs to the damage model was
24 flood inundation mapping and modeling that the City of
25 Calgary undertook jointly with the province of Alberta

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1 after 2013, and that information was utilized to
2 identify the extensive inundation for communities all
3 throughout Calgary.

4 Q. But that is not -- that breakout is not part of the
5 evidence before this Board?

6 A. That's correct. It is possible to utilize the IBI
7 model to segregate by virtually any geographic extent
8 that we would choose, including by community
9 boundaries.

10 Q. In bullet paragraph number 3 in that same section of
11 Study Objectives, reference is made to "Individual or
12 combined flood mitigation options." Is the SR1
13 proposal an individual or a combined option?

14 A. Combined very much. And so in the presentation that I
15 recently went through, it was recognized that, for both
16 Bow and Elbow River communities, the combination of
17 flood resilience options would again include structural
18 and non-structural measures both inside and outside of
19 the city of Calgary, so local and regional.

20 For the Elbow River, two major elements of that
21 structural backbone of resilience would be the
22 Glenmore Reservoir improvements I spoke of in the
23 presentation, working synergistically with the
24 Springbank Off-Stream Reservoir, together to provide a
25 high level of resilience for communities along the

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1 Elbow River, and then again on the Bow downstream of
2 the confluence.

3 Q. But the SR1 proposal was not looked at as being
4 combined with any upstream Bow River reservoir; is that
5 correct?

6 A. What we did was combine suites of mitigation measures
7 for all communities, so including the Bow River, though
8 we can segregate, as I mentioned earlier, we can
9 segregate those benefits.

10 So for the Elbow River, and communities downstream
11 of the Elbow River confluence on the Bow, SR1 working
12 with Glenmore was a significant component of the total
13 resilience, if you will, strategy or scenario, though
14 it would combine with non-structural elements like land
15 use regulation, insurance, education, et cetera,
16 similar for other communities.

17 In other communities, what the City of Calgary has
18 identified, for instance, in the downtown, structural
19 barriers have been created and, really, that analysis
20 that IBI undertook with us allowed us to identify that
21 optimal mix from -- for each region or -- or community.

22 Q. So you were saying that the City of Calgary did not
23 look at the SR1 proposal in isolation; is that correct?

24 A. That's correct.

25 Q. Now, in paragraph --

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1 A. Though it's -- pardon me. I would just add that,
2 though we did extensive work to be able to segregate
3 out the benefits directly of SR1 so we could understand
4 those.

5 So, very much, the scenarios that IBI analyzed
6 encompassed all the suite of flood mitigation measures
7 that were put in place or configured within that
8 scenario, but then we could utilize, and did utilize,
9 the IBI model to then extract the benefits.

10 You'll recall my presentation, and in the City of
11 Calgary's written submission, we refer frequently to
12 the 27.7 million averted average annual damage
13 associated with SR1. That's based on our analysis of
14 the impacts of only SR1 after layering out or pulling
15 out the effects of things like the Glenmore Reservoir
16 or other mitigation measures.

17 So, through the tool, we're able to evaluate full
18 scenarios, but then extract the relative benefits for
19 each of the components reasonably.

20 Q. In paragraph 4 of that same section, reference is made
21 to a prioritization of structural and non-structural
22 investments. Where does the SR1 proposal fit in
23 amongst that prioritization?

24 A. It's a very high priority. It offers very
25 significant -- very significant benefits and is

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Cross-examined by Mr. Rae

1 critical to, again, many of the key elements within the
2 city of Calgary that represent the greatest
3 concentration of risk. Again, the downtown commercial
4 areas, transportation work, bridges, C-Train, you name
5 it. Much of the critical infrastructure and much of
6 the very productive economic basis of our city is
7 within that SR1 benefit area. Very definitely.

8 Q. What is the highest priority?

9 A. Our highest priority is always human life safety.

10 Q. But amongst the various flood mitigation scenarios,
11 what's the highest priority in the eyes of the City of
12 Calgary?

13 A. It would be -- it would be difficult to identify. And,
14 again, this goes back to what we learned from our
15 expert management panel is that it would take multiple
16 measures, if you will, the airbag and the seat belt
17 working together to provide that high level of
18 resilience. And this is why scenarios or combinations
19 of mitigation measures were combined.

20 It's perhaps more appropriate to identify which
21 scenario or suite of -- of options worked the most
22 synergistically together and provide that highest
23 level.

24 Within that though, I can say that SR1 is a very
25 significant priority, again, because of the exposure

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Cross-examined by Mr. Rae

1 and the potential for SR1 to limit damage and exposure
2 within the communities of lower Elbow and the -- and
3 the Bow River downstream of the confluence of the Elbow
4 and the Bow.

5 Q. Is an upstream Bow River reservoir a higher priority
6 than SR1?

7 A. Again, they were part of a common suite of preferred --
8 of a preferred alternative scenario. Both have very,
9 very significant benefits.

10 Q. But this document talks about the City of Calgary
11 prioritizing those options. I'm simply asking, what are
12 the rest of the -- what's the rest of the list of the
13 priorities?

14 A. Oh, in general, the prioritization was around classes
15 of mitigation. So, if you will, local barriers and
16 drainage improvements versus reservoirs versus
17 structural mitigation versus insurance, for instance,
18 as a non-structural mitigation measure.

19 So, yes, the individual components, there was some
20 degree of classification of those, certainly recognized
21 through the IBI analyses which have significant averted
22 damage outcomes, but it is recognized that they do have
23 to work together.

24 Fundamentally, the prioritization was also about
25 identifying which of those tools in the toolbox were

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1 appropriate to use.

2 For instance, many citizens approached the City
3 suggesting that dredging rivers to increase the
4 hydraulic capacity would be an appropriate response.
5 This was a response that was de-prioritized, with the
6 exception of some smaller local gravel bar modification
7 types of work because of the extreme environmental
8 costs, the significant ongoing operational costs, the
9 environmental impacts, and the longevity of -- of a
10 measure like that.

11 So, in general, the prioritization was around
12 classes of mitigation response, though there was some
13 prioritization, or at least an ability to understand
14 the relative averted damage benefit through the IBI
15 analysis.

16 Q. Is an upstream reservoir on the Bow River the City of
17 Calgary's highest priority?

18 A. It is a very high priority.

19 Q. That's not what I asked. Is it the highest?

20 A. I'm not certain that it would -- it would fit within a
21 suite of -- of alternatives that would form the City's
22 preferred or optimal mix of mitigation measures.

23 Q. Paragraph 5 on that same section states that the
24 City of Calgary's analysis can be used to: (as read)
25 "Provide guidance in prioritizing

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1 structural and non-structural flood
2 mitigation measures."

3 Does it provide guidance to upstream communities, the
4 model you have been using?

5 **A. No, the model is truly aimed at addressing the impacts
6 and averted damages or potential damages relative to
7 flood in the City of Calgary.**

8 **Q.** Now, on the -- my apologies. This document was split
9 into left and right-sided columns, and my apologies for
10 skipping back to the left side of the document. I
11 believe that was done -- it's a promotional document.

12 The bottom paragraph on the left-hand side, sorry,
13 the second-to-last paragraph on the left-hand side
14 starting with the words "the Glenmore diversion tunnel"
15 makes reference to economic efficiency. How did the
16 City of Calgary calculate economic efficiency?

17 **A. In general, we would estimate, as the project team for
18 SR1 has done, the implementation costs, the operational
19 costs, and the lifecycle replacement costs for any of
20 the measures that were included in the analyses.**

21 Economic efficiency was based on the ability of
22 the investments in those various elements of cost to
23 offset or revert damage or provide other benefits.

24 **Q.** Now, skipping back to the right-hand column under
25 Section 1.3, the second bullet point starting with the

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1 words "Phase 2." It talks about community
2 consultation. Did the City of Calgary carry out any
3 community consultation with any communities outside the
4 boundaries of the City of Calgary?

5 **A. With reference to flood resilience in -- in my**
6 **knowledge, primarily within the city -- again, I'm not**
7 **aware of all the communications that occurred through**
8 **all the various business units throughout the city.**

9 **Q. If we could turn to the next page, then, which would be**
10 **probably PDF page 11. Yes, thank you.**

11 Now, the section numbered 1.4 study area refers to
12 undeveloped land along the Elbow and Bow Rivers. What
13 undeveloped land was included in that analysis,
14 strictly undeveloped land within the City of Calgary?

15 **A. Within the City of Calgary, primarily the only**
16 **components of the Bow River valley that are yet to be**
17 **developed, and there are some smaller redevelopment**
18 **areas, are toward the southeast corner. An area known**
19 **as Ricardo Ranch is one example of an area that is yet**
20 **to be developed.**

21 **Q. So it was simply undeveloped land within the bounds of**
22 **the City of Calgary; is that correct?**

23 **A. Yes.**

24 **Q. Now, in Section 2 on that same page which deals with**
25 **updating the model, in that Section 2, it's stated that**

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Cross-examined by Mr. Rae

1 the flood hazard area was expanded. Can you tell us
2 why it was expanded?

3 A. Sorry, Mr. Rae, I'm just going to read the full
4 paragraph. Apologies for the pause.

5 The model in question deals with hydraulic or
6 incorporates hydraulic modelling and inundation mapping
7 from post-2013.

8 So I think in this -- in this verbiage, what
9 expanded to, is referring to, is the fact that the
10 flood hazard areas relative to the new mapping, and
11 again, recognize that 2013 was a significant event.
12 Including it into the population of historic flood
13 events did have impacts on the, if you will, the curve
14 fitting for the estimation of the events of
15 significance in terms of resilience and in terms of
16 land use regulation.

17 So in terms of expanded, what we were simply
18 trying to capture there, to the best of my
19 understanding, was that post-2013, things had changed,
20 river hydraulics had changed, so in addition, extents
21 and the pattern of elevations and flows and velocities
22 in the river would have changed, but also would have
23 the estimates for what a, quote, "1 in 100-year," "1 in
24 200-year," or any recurrence interval event would have
25 been.

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1 This sentence is just trying to indicate that this
2 analysis was completed with that information following
3 the 2013 event.

4 Q. The section Number 3 on that same page entitled
5 "Groundwater Flood Damage Modelling," I believe in it
6 you state that the City of Calgary has attempted to
7 include analysis -- an analysis of groundwater flood
8 damage in its modelling.

9 Given the lack of precision and groundwater
10 numbers that we earlier referred to, is not the City's
11 attempt to include groundwater modelling a little bit
12 of -- what the mathematicians would call a little bit
13 of overprecision; in other words, the data in
14 groundwater modelling is so imprecise that it should
15 not be included with the more precise data you have for
16 overground flooding. Is that a valid accusation about
17 your inclusion of groundwater modelling?

18 A. I wouldn't say it is. In both the 2005 and 2013
19 events, anecdotal information was collected from
20 citizens.

21 The issue with groundwater is that the geologic
22 conditions within the basin can vary, and in some
23 cases, fairly significantly, even over short distances.

24 So from the standpoint of estimating general
25 groundwater exposure, I believe it was reasonable and

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Cross-examined by Mr. Rae

1 appropriate to incorporate this information,
2 recognizing that we had empirical evidence from both
3 2005 and 2013, including studies done by other parties
4 like the University of Calgary that suggested that
5 groundwater was a significant mechanism.

6 To not include it would have likely led to greater
7 error than including it. So we did include it and
8 qualify it, and then in all of our work with IBI, we
9 were careful to provide tables that would summarize and
10 break out the groundwater component, recognizing that
11 it would have a higher uncertainty than the damages and
12 impacts associated with overland inundation.

13 Q. If you turn to page 14, I believe it is, the PDF page
14 number, the section entitled "Triple Bottom Line Model
15 Enhancements." That's correct.

16 In that section, Number 4, at the very bottom, it
17 states that the aforementioned aspects were monetized.
18 Is there a separate dollar amount for each of those
19 triple bottom line categories?

20 A. We could attempt to break it out. In general, what IBI
21 was able to do was scale these factors based on other
22 risk and exposure factors, things like population;
23 things like the density of businesses; things like the
24 assessed value of the infrastructure in place.

25 So, in general, these values were, if you will,

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1 **scaled to other factors related to the net exposure.**

2 Q. So you haven't breaking (verbatim) out into those
3 triple bottom line categories the numbers, but you
4 state that you could if need be?

5 A. **It would take significant effort to, but it would be**
6 **theoretically possible, yes.**

7 Q. Now, the section on the opposite side of the page
8 entitled "Insurable Flood Damages." Now, in that
9 section, you state that the insurance industry is
10 unable to calibrate depth damage curves. Given that
11 advice from the insurance industry, on what basis did
12 the City of Calgary think it could do exactly that,
13 which the insurance industry states that it could not
14 do?

15 A. **Primary on the basis of the expert work by the IBI**
16 **group, as part of the work the damage curves associated**
17 **with different real estate classes was investigated.**
18 **This included an inventory. So this included, you**
19 **know, staff from the consultant teams assessing and**
20 **going into individual buildings and assessing the**
21 **relative impact.**

22 **So very much on the basis of the professional work**
23 **that the IBI group provided to the City of Calgary.**

24 Q. Are you going to share the results of your work with
25 the insurance industry?

1 A. We have met several times with the Insurance Bureau of
2 Canada as a City of Calgary to address the trajectory
3 of both overland and other types of insurance related
4 to flood.

5 The City of Calgary aims to ensure that the
6 insurance industry can grasp and understand the work
7 that we have done and the characterizations of risk
8 that we have provided.

9 So yes, we have also had numerous inquiries from
10 various insurers on specific areas of the City. We
11 always aim to respond with the best information that we
12 can to ensure that the insurance industry is proceeding
13 with its understanding of this important risk with the
14 best information that we can provide.

15 Q. If SR1 is constructed, will those communities in
16 Calgary downstream of the Glenmore Reservoir to the
17 conjunction with the Bow River, will those communities
18 no longer be considered high flood risk areas?

19 A. Those areas would likely remain within designated flood
20 hazard areas. What the City of Calgary would likely
21 pursue is a recognition that changes to the regulation
22 of building, flood proofing, and land use would
23 recognize the structural mitigation in place.

24 So those areas wouldn't be removed. They would be
25 very unlikely to be removed from zones of risk, they

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1 would remain identified as zones of risk, though it
2 would be the City of Calgary's intent to ensure that
3 that risk was communicated very clearly to all
4 stakeholders, developers, builders, insurers, property
5 owners, citizens.

6 Q. Is it fair to say, then, that you're going to be
7 advising homeowners in Elbow Park that even if SR1 is
8 constructed, that their property insurance premiums are
9 not going to be reduced?

10 A. I am not certain that that is the case or not the case.

11 The status of overland insurance in Canada,
12 particularly for low density residential, is very much
13 at issue.

14 If Mr. Rae would appreciate, I could offer some
15 background around the provincial flood hazard program
16 and its inception in the 1980s. It was really intended
17 to offer guidance around how provincial and federal
18 disaster recovery of funding would be eligible or
19 non-eligible within different communities based on land
20 use regulations at the time.

21 So up until the present within Canada, there is
22 not a very developed practice. I would say that the
23 insurance industry around overland insurance,
24 particularly for low density residential, perhaps a
25 little bit different, again for commercial and

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1 industrial types of applications is very much
2 developing. And part of the intent of the City of
3 Calgary, again, is to make sure that the best possible
4 information about risk can be communicated to all
5 stakeholders so that decisions can be made
6 appropriately with that information.

7 THE CHAIR: Mr. Rae --

8 MR. RAE: Ray.

9 THE CHAIR: Sorry to interrupt, Mr. Rae, just
10 if I could. You're just over your hour that you had
11 requested and the Board had approved. Where are you at
12 in your questioning at this point? Are you fairly
13 close?

14 MR. RAE: Unfortunately, Mr. Chairman, I'm
15 not. The answers to the questions are -- with all due
16 respect to Mr. Frigo, they're very informative, but
17 sometimes they're going on longer than I anticipated.

18 I would ask, Mr. Chairman, if I could have the
19 Panel's indulgence that would enable me to ask my
20 remaining questions.

21 THE CHAIR: You would expect that would take
22 us to when? It's 20 after 11 now.

23 MR. RAE: I will be certainly finished by
24 noon.

25 THE CHAIR: Okay, and let's proceed, but by

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1 noon -- we'll break at noon and we should -- I guess
2 we'd expect that you do your best to get these
3 questions completed. Thanks.

4 MR. RAE: I will certainly do that,
5 Mr. Chairman. I might add that the cross-examination
6 of the City of Calgary will result in a less
7 cross-examination of other witnesses, even on other
8 sections.

9 THE CHAIR: Okay.

10 MR. RAE: We're covering quite a bit of
11 ground with these questions.

12 THE CHAIR: Okay, thank you.

13 Q. MR. RAE: Now, Mr. Frigo, that last answer,
14 is it fair to say that the insurance industry has not
15 bought into the City of Calgary's protected benefits to
16 the downstream from Glenmore dam communities, the
17 insurance industry has not bought into your projected
18 benefits from the SR1 project?

19 A. **I wouldn't say that's true. I'm not -- I'm not certain**
20 **what the insurance industry would -- would summarize.**

21 I can indicate that information that the City of
22 Calgary has developed around flood risk has been made
23 public and has been communicated to any and all of the
24 ask, including the Insurance Bureau of Canada and
25 individual insurance and underwriters.

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Cross-examined by Mr. Rae

1 Q. But you're saying that there's no evidence to date that
2 insurance premiums for those property owners downstream
3 of Glenmore dam are going to realize any savings in
4 their property insurance?

5 A. It's not clear, again, where, you know -- precisely
6 where insurance exactly is going. Sorry for my long
7 answers earlier, but there's lots of context around
8 that, of course.

9 Q. Will properties values in those communities downstream
10 of Glenmore dam increase as a result of the SR1 project
11 in the eyes of the City of Calgary?

12 A. I'm not aware that we could make that -- that
13 assessment directly. I would say property valuation is
14 obviously going to be a function of many different
15 factors, primarily economic factors.

16 I would say that a flood-protected city in general
17 is going to have a higher resilience, and therefore,
18 things like business continuity with lower disruption
19 would be very much benefitted by having resilience in
20 place.

21 Q. I would ask you to turn to PDF page 16, which is a
22 table entitled "Flood Study Area, Total Damages"; yes,
23 that's the one. Can you tell me what this -- can you
24 summarize what this table purports to show?

25 A. Yes, it's showing a summary of the total damages for

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1 different return period of events ranging from the
2 five-year, 20 percent annual exceedance probability,
3 all the way up to the thousand-year based on the
4 analysis completed by IBI back in 2017.

5 Q. Now, the first two damage categories are labelled
6 "Residential" and "Commercial." Is it fair to say that
7 those damages are private sector damages and not public
8 sector damages?

9 A. No, they're a combination of both private and -- and
10 public.

11 Q. Does this assessment purport to distinguish between
12 public damages and private property damages?

13 A. Both were included. So it -- it evaluated both and
14 included both.

15 Q. And what is the basis for including private property
16 damages in this assessment?

17 A. The -- the triple bottom line policy that the City
18 approaches aims to direct the City to evaluate risks at
19 a societal level. So not to the corporation of the
20 City of Calgary alone, so that is not to the
21 infrastructure operations owned and managed by the
22 City of Calgary directly, things like our wastewater
23 treatment plants, our sewage treatment plants, our LRT,
24 our road network, our bridges, et cetera, but also to
25 recognize some of the -- or recognize the communal

1 impacts, that is, to society.

2 So the triple bottom line analysis and the
3 financial analysis here, we're aiming to look at total
4 damages, including both public and private elements.

5 Q. But that definition and utilization of triple bottom
6 line damages, does that not bias all your assessments
7 in favour of higher population areas? Obviously the
8 higher the population, the higher the private sector
9 benefits and assets involved, and invariably, that
10 would result in a triple bottom line analysis which
11 would always supercede the lower population areas. Is
12 that not a fair criticism?

13 A. Not necessarily. There are a number of areas; you
14 know, for instance, parks and open spaces have been
15 recognized as the City of Calgary as critical to the
16 well-being of its citizens and providing many direct
17 and indirect economic benefits.

18 So it's entirely possible that we would have
19 high-valued areas that would not represent high
20 population densities that could, for one reason or
21 another, and this is precisely why a triple bottom
22 framework is utilized, is so that those aspects can be
23 accounted for.

24 Q. I'm not quite sure I followed your answer to my
25 question, though, is your triple bottom line tool, not

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1 directly a function of the -- a number of people
2 involved; it's just like assessments, economic
3 assessments of gross national product or gross domestic
4 product, the higher the population, the higher those
5 numbers are. And they're inherently biased in favour
6 of higher population figures. Is that not a correct
7 assessment of your model?

8 **A. Population would be one component. For instance, a**
9 **piece of critical infrastructure like an electrical**
10 **substation that might be impacted may not have a high**
11 **population associated with it, but it could have a very**
12 **significant impact on community resilience, everything**
13 **from life safety to -- to the continuation of economic**
14 **processes.**

15 **So no, not in all cases would population density**
16 **be the sole or single indicator of degree of risk or**
17 **severity.**

18 **Q. But the City's evidence indicated, I believe, there was**
19 **2,000 residents, sorry, 2,000 residential structures**
20 **downstream of the Glenmore dam. Surely those 2,000**
21 **residents or 2,000-plus residents are going to trump**
22 **the damage assessment for outlying areas with no**
23 **people; that will invariably be the case, will it not?**

24 **A. Again, depending on what is contained. The degree of**
25 **risk and exposure and degree of impact associated with**

1 the assets and the land base within those two areas.
2 In general, yes, areas of high population, of high
3 concentration of infrastructure would be those that
4 would represent the greatest potential for averted
5 damages.

6 And so in this IBI analysis, as well as in other
7 triple bottom line analyses that the City would do more
8 generally, which is what I thought you were referring
9 to earlier, yes, that is a factor. But it certainly is
10 recognized that things like cultural and historical
11 assets that may have a value that -- that doesn't
12 translate, in terms of population, would obviously be
13 worth considering and entering into analyses like
14 these.

15 Q. Let's turn to page 18 of this exhibit if we might,
16 thank you. Now, in Section 8 on this page,
17 "Identification and Qualitative Assessment of Flood
18 Mitigation Options," reference there is made to studies
19 conducted by the province and the City. Why has the
20 government of Canada not been involved in these
21 studies?

22 A. In general most because of the jurisdiction both lies
23 at the municipal and provincial levels. It is
24 dominantly through -- though there are aspects of
25 federal regulation, it is my understanding that

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1 Alberta Environment and its mandate relate to the
2 management of our stream systems. And similarly within
3 the City of Calgary, land use regulation, emergency
4 operations, and certainly aspects of water supply that
5 implicate and other aspects of water management, that
6 implicate municipal jurisdiction are -- are there.

7 Q. Is it intended to bring the government of Canada into
8 the debate going on?

9 A. No, sir, though it is recognized that some of the
10 activities of the -- and jurisdiction of the federal
11 government are salient.

12 For instance, I have participated in a number of
13 workshops and working groups with the -- with the
14 federal government looking at, for instance, flood
15 mapping standards, floods hazard area policy standards.

16 So very much there is a recognition that there are
17 federal roles and responsibilities. Though primarily
18 in the City of Calgary's case, we understand that
19 significant responsibilities lie with both the
20 municipality and the province.

21 Q. Is the City of Calgary aware that two of the
22 hydroelectric dams in the Bow River are in fact
23 federally licensed, not provincially licensed, and that
24 related to that fact is the *Constitution Act, 1930*,
25 which specifically refers to the Bow River?

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Cross-examined by Mr. Rae

1 **A. I take your suggestion at face value that that is true.**

2 **Q. My question is is the City of Calgary aware of those**
3 **facts?**

4 **A. I am not aware. I'm not certain whether others within**
5 **the City of Calgary are or are not. I am not aware.**

6 **Q. Can we turn to the next page, please. Sorry, page 20**
7 **would be the next one I guess, yes, thank you.**

8 Now, in this study, and in addition in the
9 province of Alberta studies, reference is usually made
10 to average annual savings, as opposed to total
11 cumulative savings when it comes to flood damage
12 assessments. Why is that measure used, annual savings,
13 rather than the total cumulative savings?

14 **A. For the total cumulative savings to be relevant, we'd**
15 **have to choose a design life cycle.**

16 What we find -- what we have found is that it's
17 simply more straightforward, more practical to
18 community in terms of average annualized values. This
19 allows us to think in terms of what the impacts would
20 be on a year-by-year basis.

21 It's entirely possible to extend those
22 year-by-year values over a long time frame. When
23 different mitigation measures have different design
24 lives and different impacts across time, that becomes
25 obviously more complex.

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Cross-examined by Mr. Rae

1 So primarily just for ease of communication, we
2 have utilized in general the terminology around average
3 annual damage.

4 Q. The bottom of that page, Section 9.4, discusses the
5 City's triple bottom line criteria. Why has the
6 City of Calgary not engaged Indigenous peoples in
7 general, and more particularly, any Stoney Nakoda
8 people?

9 A. In the context of this study, it is because the effects
10 were largely occurring and being geographically limited
11 to the city of Calgary. That certainly doesn't
12 preclude, again, there are many other departments
13 within the City of Calgary that aim to maintain a good
14 working relationship with all of our municipal and
15 regional neighbours, very importantly, First Nations.

16 So in this case of this study, the intent was to
17 identify primarily impacts that were within the City of
18 Calgary by way of the flood damage model.

19 There's no intent not to communicate, simply is
20 that our understanding was that most of this study
21 pertained to the City of Calgary.

22 It's certainly a public study, though, and we
23 welcome anyone to -- to look at it.

24 Q. If we could turn to I believe it's PDF page 26 or
25 thereabout and tables that discuss the triple bottom

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Cross-examined by Mr. Rae

1 line scenario ranking, and Mr. Chairman, I will
2 endeavour to go this quickly.

3 Mr. Frigo, is it fair to say that the table in
4 front of you, its Options 2 and 7 are the ones that
5 involve the SR1 project and upstream Bow reservoir; is
6 that correct?

7 **A. Yes, that is correct.**

8 **Q.** And do those two scenarios rank highest in this table?

9 **A. Yes, they do.**

10 **Q.** Perhaps we could turn, then, to Exhibit 233.

11 Actually, in the interest of time, Mr. Chairman,
12 and since we've already touched on a number of the
13 topics that are covered in Exhibit 233, maybe instead I
14 could ask us to turn to Exhibit 235, which in turn is
15 Exhibit T to the City of Calgary's submission.

16 Yes, are you familiar with this Exhibit T to the
17 City's submission, Mr. Frigo?

18 **A. Yes, sir, yes, I am.**

19 **Q.** And if I might suggest to you that in Exhibit T,
20 reference is made to data from the Seebe dam on the
21 Stoney Indian Reserve being missing from 1962 to 1979;
22 I believe it's on page 23. My question simply is are
23 you aware of why that data is missing?

24 **A. I am not.**

25 **Q.** Would you undertake to ascertain why that data is

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Cross-examined by Mr. Rae

1 missing or at least to make efforts to find out why
2 that data is missing?

3 A. We could do that. My understanding is that in general,
4 a hydrometric measurement is completed by the Water
5 Survey of Canada and in some cases by
6 Alberta Environment and Parks. We would need to
7 address with those agencies what the possible reasons
8 may be.

9 The most common reason why hydrometric stations
10 are -- had intermittent record is typically that the
11 station has been not maintained or damaged. Often this
12 is a direct result of funding decisions and priority
13 decisions made by those organizations.

14 We could undertake to do that; that will take some
15 time.

16 Q. Thank you. Could I ask you to turn to Exhibit 345.

17 THE CHAIR: Mr. Rae, Mr. Rae, just so we can
18 be clear there, Mr. Kennedy, Ms. Vance, do you have
19 what you need just to track this undertaking, an
20 exhibit number perhaps and a page number and a specific
21 request, so just we can follow up?

22 MR. MERCER: Mr. Chair, if I may. David Mercer
23 here again for the City of Calgary.

24 I'm really concerned about the City of Calgary
25 endeavoring to undertake undertakings that relate to

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1 things that are entirely within third parties such as
2 that TransAlta agreement which was mentioned earlier,
3 and this issue here.

4 This is information that the City of Calgary does
5 not currently have or, to the best of my understanding
6 we do not have, and it relates to agreements and things
7 that are entirely within the hands of third parties
8 which we probably cannot undertake undertakings for.

9 THE CHAIR: Sorry, I was just going to say if
10 the answer is no, that may well be what -- the answer
11 may come back "we can't get it," but if we're going to
12 have an undertaking, then I guess we need an agreement
13 that'll be undertaken and then some timelines.

14 Mr. Kennedy?

15 MR. KENNEDY: Well, I think there might be a
16 question in advance as to how is this going to help the
17 Panel understand and assess the public interests of
18 SR1.

19 Mr. Rae, during much of the first hour that he was
20 cross-examining the City of Calgary, was exploring
21 flood mitigation on the Bow River upstream of the City
22 of Calgary. But to the degree that that's relevant to
23 SR1, it may not be obvious to the Panel and may not be
24 obvious to others. And in order to be helpful for the
25 Panel to assess the public interest of SR1, perhaps

FRANK FRIGO

Cross-examined by Mr. Rae

1 Mr. Rae could focus on providing some explanation on
2 the foundation for his questions.

3 The *NRCB Act* is pretty clear in terms of what it
4 directs the Panel to consider, and that is the social,
5 economic, and environmental effects associated with the
6 renewable project. And in this case, the renewable
7 project is SR1.

8 MR. RAE: Mr. Chairman, if I might respond.

9 THE CHAIR: Yes, please.

10 MR. RAE: The evidence from both Alberta
11 Transportation and the City of Calgary, we would submit
12 in large part, is attributing the benefits of the SR1
13 project not to the benefits from that project but to
14 the benefits from combined projects on both the Bow and
15 the Elbow River.

16 We would submit that the evidence taken by itself
17 in regard to SR1 shows minimal benefit from the SR1
18 project by itself. Those benefits from SR1 only arise
19 if the other portions of the flood control on the Bow
20 watershed are taken into account. And much of the
21 evidence submitted by Alberta Transportation and the
22 City of Calgary is exactly to that effect. They have
23 put this evidence in front of this Panel in an attempt
24 to argue that the SR1 project is in the public interest
25 when, in fact, we submit they're arguing is that the

FRANK FRIGO

Cross-examined by Mr. Rae

1 SR1 project as part of a combined set of flood control
2 structures is in the public interest. That's the basis
3 for these questions.

4 THE CHAIR: So I'll agree that the questions
5 that I've heard you ask and others I believe in terms
6 of splitting the benefits between SR1 -- or the annual
7 average damage avoidance between SR1 and what might be
8 left without SR1 or because resulting from the Bow,
9 they've been asked, and I think you've asked those
10 questions, and largely have been answered. If there
11 are yet to be unanswered questions as to whether or not
12 they've double counted, I think is your question, Mr.
13 Rae, essentially benefits that would accrue only if
14 there was additional protection on the Bow, then I
15 think we ought to ask -- I mean, it would be up to you
16 to ask those questions to clarify. But some of the
17 other directions we're going, I don't think directly
18 sort of zero in on that issue of how do they estimate
19 the actual benefits or damage avoidance to SR1 alone.

20 So, you know, if there's other questions on that
21 line, I think those are completely, you know,
22 understandable, and it would be a benefit to the Panel.
23 But in terms of whether or not other projects ought to
24 have been built on other tributaries, other river
25 systems, is not in front of the Board now.

FRANK FRIGO

Cross-examined by Mr. Rae

1 MR. RAE: Thank you, Mr. Chairman. I
2 certainly understand your position, and that does help.

3 I would point out that the recent questioning we
4 just went through this morning indicating that
5 insurance costs for those people living downstream of
6 the Glenmore dam are not going to be affected by the
7 SR1 is good evidence of exactly what you're suggesting,
8 that the SR1 project by itself is of little benefit in
9 the public interest. It's certainly of benefit to some
10 people, but by itself, it's of little benefit.

11 Mr. Chairman, if it might help, I only have one
12 exhibit to ask further questions on, and I will be
13 fairly quick about it. And I would --

14 THE CHAIR: Thank you, sir.

15 MR. RAE: I would segue by saying that that
16 exhibit, like many of the other exhibits I've been
17 questioning on the City of Calgary on, is part of
18 public information documents that have been prepared by
19 the City of Calgary to promote the City of Calgary
20 interest, which, of course, they're entitled to do, but
21 that's the source of the confusion in that the City of
22 Calgary is promoting the SR1 project when, in reality,
23 it's promoting something much bigger.

24 In any event, I will be brief and I only have the
25 one more exhibit to examine on. If I could have the

FRANK FRIGO

Cross-examined by Mr. Rae

1 Panel's indulgence in that regard.

2 THE CHAIR: Yeah, please proceed.

3 Q. MR. RAE: So Mr. Frigo, if you could turn to
4 Exhibit 345. And, as I've just undertaken with the
5 Chairman, I'll be quick about these questions.

6 First of all, what is Exhibit 345 which is
7 entitled "One Calgary, One Water?"

8 A. This is a -- a general document published in January of
9 2020 that represents the City in the water utilities'
10 stance and framework around water security from a water
11 supply perspective for a municipal potable water supply
12 for Calgary and region.

13 Q. And is it fair to say that the Stoney Nakoda people,
14 notwithstanding they have three existing water storage
15 dams on their reserve lands, is it fair to say the
16 Stoney Nakoda people have not been involved whatsoever
17 in the study in this framework or anything at all that
18 the City of Calgary has been promoting?

19 A. I'm not aware of whether engagement that was completed
20 in addition to the study or to support the study
21 directly included Stoney Nakoda or not.

22 I do know that with the preparation of documents
23 and policy of this type, it is generally the City of
24 Calgary's approach to involve other stakeholders. I'm
25 not aware of specific communications or engagement on

FRANK FRIGO

Cross-examined by Mr. Rae

1 this.

2 Certainly again, it is a public document that we
3 would invite -- the City of Calgary would invite any
4 and all to -- to review and comment on.

5 Q. Mr. Frigo, if I was to suggest that a summary of
6 Exhibit 345 would simply have the statement that the
7 City of Calgary feels that upstream riparian
8 communities on the Bow River and the Elbow River should
9 be sacrificed for Calgary's future water demands, would
10 you consider that summary unfair to the City of
11 Calgary's position?

12 A. I would consider it, yes, quite unfair.

13 The City undertakes again and the work and the
14 division that I work for very solidly embraces what is
15 referred to as "total watershed management." We
16 recognize that we're part of a basin that has to work
17 together. We recognize we work under a -- under the
18 *Water Act* and under the water licensing requirements
19 and stipulations of the *Water Act*. We're aiming for an
20 optimized benefit to all users, irrigation, hydropower,
21 other municipalities and ourselves.

22 Sustainability across the basin is the intent, if
23 that's not apparent from the read of this document, is
24 very much the intent.

25 The City does recognize it has a very important

FRANK FRIGO

Cross-examined by Mr. Rae

1 role, recognizing that a lot of the population, both
2 within the city and by regional municipal customers
3 that the City of Calgary serves, are part of our
4 responsibility to ensure that sound water resources
5 approach is taken forward.

6 Q. Mr. Frigo, would you agree with the statement that the
7 SR1 project does not deal with total watershed
8 management; it deals with partial management?

9 A. I would not agree with that, Mr. Rae. I would
10 indicate, as Mr. Wood had indicated yesterday, that
11 every watershed management investment, including
12 investments like SR1, alter a great number of factors,
13 one of which in the case of SR1 as Mr. Wood pointed out
14 yesterday is that currently, the operation of the
15 Glenmore Reservoir has to be seasonally adjusted to
16 ensure optimal flood resilience.

17 Though the reservoir is relatively small, this
18 puts considerable additional strain on the water supply
19 system. With additional mitigation, whether that's SR1
20 or other elements, that can be alleviated, but would
21 not agree that that's a reasonable characterization.

22 MR. RAE: Those are all my questions,
23 Mr. Chairman. I thank you for my indulgence and for
24 allowing me to go over my projected time.

25 THE CHAIR: Thank you, thank you, Mr. Rae.

FRANK FRIGO

Cross-examined by Mr. Rae

1 We are close to the lunch hour anyway.

2 Mr. Secord, you did not indicate you had
3 cross-examination intentions for City of Calgary. I
4 think I have that right; is that correct?

5 MR. SECORD: Sorry, sir, I was having trouble
6 with my cursor again.

7 THE CHAIR: To get onto the...

8 MR. SECORD: Yeah, so as I mentioned, as I
9 mentioned, the -- I'm going to save my questions for
10 Calgary for Topic -- for Topic Block 3.

11 THE CHAIR: I see.

12 MR. SECORD: Thank you.

13 THE CHAIR: Okay. And -- and Mr. Williams, I
14 believe you've indicated no questions. Are you on line
15 still? I just forwarded to Ms. Friend that he has no
16 questions.

17 So we would just have Panel and staff questions.
18 Is the Panel and staff, are you ready to ask now? If
19 so, we can probably complete by -- if we can complete
20 by noon, we can break then. Mr. Kennedy?

21 MR. KENNEDY: I only have a couple of very quick
22 questions of the City of Calgary and am prepared to go
23 now.

24 THE CHAIR: Okay, let's continue, thank you,
25 Mr. Kennedy.

FRANK FRIGO

Questioned by Mr. Kennedy

1 **MR. KENNEDY QUESTIONS THE WITNESS:**

2 Q. Mr. Frigo, can I take you to page 11 of your initial
3 presentation contained the chart, perhaps somebody
4 could bring that up.

5 THE CHAIR: Which exhibit, Bill?

6 MR. KENNEDY: I'm not sure the exhibit number,
7 but it was the initial PowerPoint presentation that --
8 from the City of Calgary.

9 THE CHAIR: Ms. Cundliffe? Perfect.

10 Q. MR. KENNEDY: And if we go to page 11, this is
11 where I want to be.

12 Mr. Frigo, during earlier questions of Alberta
13 Transportation, there were a lot of questions posed
14 about that reach of the Elbow River between SR1 and
15 Glenmore. And what this table clearly indicates is the
16 hundred-year flood is 841 cubic metres. Is that a
17 correct read of the table?

18 A. Yes, sir. What this table encompasses is new
19 hydrologic estimates associated with
20 Alberta Environment and Parks' recent release of draft
21 new inundation mapping for the city of Calgary and
22 area.

23 So hydrology study that was done to support new
24 mapping is the source of these estimates.

25 So these estimates vary a little bit from the

FRANK FRIGO

Questioned by Mr. Kennedy

1 estimates made through other hydrologic analyses, but
2 we took them into this analysis because they were the
3 most recent estimates that we were aware of for
4 Elbow River.

5 Q. And you indicated that City of Calgary has done
6 inundation mapping for all of the communities?

7 A. That's correct. In fact, the inundation mapping that
8 we have done has been done in conjunction with
9 Alberta Environment and Parks. So again, after 2013, a
10 dataset was produced, and again in 2019, the province
11 has further updated that mapping.

12 Now, most recent 2020 mapping was the basic data
13 source for the mapping that was included both in our
14 Exhibit 229 and in the presentation today.

15 Q. And for the 1 in 100-year flood for those communities
16 again upstream of the Glenmore Reservoir, are their
17 developed properties flooded in the 1 in 100-year
18 flood?

19 A. In general, no. The communities upstream of the
20 Glenmore Reservoir developed after the 1980s when the
21 City of Calgary's land use bylaw was in place in
22 conjunction with provincial mapping that recognized a 1
23 in 100-year flow of 883 cubic metres per second.

24 So communities like Discovery Ridge have been
25 designed to that 883 cubic metre per second value.

FRANK FRIGO

Questioned by Mr. Kennedy

1 Relative to this table, the centre column that
2 reads "Flow Peak Into Glenmore" would be the same flow.
3 We wouldn't expect to bypass or pass in front of
4 communities like Discovery Ridge.

5 So for even events as rare as 1 in 350, we would
6 not expect that there would be impacts and appreciable
7 inundation associated with those communities.

8 Q. You prefaced your entire answer to that question with
9 "in general," you wouldn't expect it, and I'm just
10 wondering what does the "in general" mean?

11 A. The "in general" means that despite the City of
12 Calgary's best intents to regulate and maintain land
13 use according to -- according to our land use bylaw, on
14 occasion, unpermitted changes to land happen, that is,
15 someone might build a walkout basement where one had
16 never been contemplated, literally remove the soil,
17 seek new permitting from the City of Calgary, and that
18 might occur.

19 So when I say "in general," I mean most of or
20 almost all of, but I cannot say "all of" because
21 certainly there are cases where things happen where the
22 City of Calgary's bylaw enforcement and other
23 activities have to catch up as they're occurring in
24 real time, sir.

25 Q. And yesterday the SCLG asked Alberta Transportation

FRANK FRIGO

Questioned by Mr. Kennedy

1 about potential berming of development areas between
2 SR1 and Glenmore Reservoir. Does the City of Calgary
3 have any plans to berm properties in that reach within
4 the city of Calgary?

5 **A. No, it does not.**

6 MR. KENNEDY: Thank you, Mr. Frigo, those are my
7 questions. Thank you, Mr. Chair.

8 THE CHAIR: Thank you, Mr. Kennedy. Just
9 before we go to Ms. Vance, Mr. Wagner, I don't believe
10 you had requested time, but I just wanted to check.
11 Would you have a question? If you're online, did you
12 have a question for the City of Calgary?

13 MR. WAGNER: Mr. Chair, person is -- sorry, you
14 broke up there, I didn't hear my last name, but I
15 assume it was my last name.

16 THE CHAIR: Mr. Wagner, yes.

17 MR. WAGNER: Yeah, no, I don't have any
18 questions. I am quite fascinating by the questioning
19 of the other participants, enjoying it immensely.

20 THE CHAIR: Thank you, Mr. Wagner. Ms. Vance?

21 MS. VANCE: I don't have any questions,
22 Mr. Chair.

23 MR. KRUHLAK: Mr. Chairman, it's Ron Kruhlak.
24 I'm wondering if I could just quickly interject on a
25 housekeeping matter. This PowerPoint presentation that

FRANK FRIGO

1 was just referred to, I don't know that it's been
2 marked as an exhibit, and as we've referred to it now,
3 it may be valuable.

4 THE CHAIR: Yes, we should mark that as an
5 exhibit, and we've got it obviously because our
6 document management folks are running -- that was not
7 entered as your original submission; is that right,
8 Ms. Senek?

9 MS. SENEK: It was not entered, no. It was
10 sent as assistance to Mr. Frigo's presentation today.
11 So yes, that should be entered as an exhibit, thank
12 you.

13 THE CHAIR: Ms. Friend, what number are we at?

14 MS. FRIEND: That will be Number 351.

15 **EXHIBIT 351 - CITY OF CALGARY**

16 **POWERPOINT PRESENTATION**

17 A. Mr. Chair, if I may, I would indicate that the
18 subscripted, pardon me, superscripted annotations
19 throughout the presentation are intending to direct to
20 numbered exhibits.

21 So in the case of the table that we were just
22 discussing with Mr. Kennedy, the 229 that appears above
23 and to the right of the table is intended to indicate
24 that that is the source of this information. Not every
25 line is referenced, but important elements of the

FRANK FRIGO

Questioned by Mr. Heaney

1 information are referenced with the exhibit number, not
2 with the page number but with the exhibit number.

3 THE CHAIR: Okay, thank you. Okay, so we have
4 that PowerPoint presentation submitted by City of
5 Calgary as Exhibit 351.

6 Ms. Roberts, do you have any questions?

7 MS. ROBERTS: I have no questions, thank you.

8 THE CHAIR: Mr. Heaney?

9 MR. HEANEY: Yes, just one quick question for
10 Mr. Frigo.

11 MR. HEANEY QUESTIONS THE WITNESS:

12 Q. The City of Calgary, most cities are -- have plans to
13 densify their cores. Does the City of Calgary have
14 plans to densify the core within what would be
15 considered the flood hazard zone now, and was that --
16 was that densification taken into account in your
17 cost-benefits analysis going forward?

18 A. In general, the City of Calgary has undertaken many
19 planning exercises that really aim to reduce the amount
20 of sprawl, the amount of additional watershed that the
21 footprint of the city of Calgary would take up. Within
22 that redevelopment and densification of many areas,
23 including inner city areas, is proposed.

24 So within the City of Calgary, yes, there is an
25 intent to have a densification of areas, including

1 areas with flood risk; however, all of that
2 densification would need to meet the very minimum
3 standard of the 1 in 100-year associated with the land
4 use bylaw controls that are again tied to provincial
5 flood hazard area mapping, as well as our overall flood
6 resilient strategy.

7 So for new communities and where it's practical
8 and feasible, we're aiming to include 1 in 200-year
9 level of resilience for new development. Of course,
10 there's a wide range of infrastructure and
11 redevelopment applications down to a single lot, and in
12 some cases, encompassing larger brownfield or other
13 types of redevelopment.

14 So of course there's a range of effects that would
15 be -- that would arise out of that, that is, that both
16 of those general requirements, the 1 in 100 land use
17 bylaw minimum and the 1 in 200-year standard are aimed
18 to be met by all new development, though it's going to
19 vary from site to site in terms of what the right
20 mitigation is going to look like for that site.

21 In some places, raising land may not be the only
22 solution; in some places that may be a component of
23 what would occur.

24 Developments like the Quarry Park development
25 represents significant brownfield redevelopments where

FRANK FRIGO

Questioned by the Chair

1 exactly that type of approach and land was raised in
2 hundred-year level, plus a metre of freeboard, before
3 any development could occur.

4 So in -- I hope that does answer; I apologize,
5 that was long.

6 Q. So did you have a projected increase in population in
7 those hazard areas in the Calgary area going forward?

8 A. Our geodemographics department have projections of that
9 nature. For all of the IBI work, the current -- and
10 this is again why some of the cautions that we delved
11 into with Mr. Rae around utilizing information imbedded
12 in analyses, like the IB analyses of 2017 are
13 important, we use the information available at the
14 time. That is, none of the damage projections assume
15 or allow for that densification.

16 We've evaluated on the basis of the asset class
17 that is present at the time of the analysis, 2017.

18 MR. HEANEY: Okay, thank you. That's it for
19 me, Mr. Chairman.

20 THE CHAIR: Thank you, Mr. Heaney.

21 Mr. Ceroici?

22 MR. CEROICI: I don't have any questions, thank
23 you.

24 THE CHAIR QUESTIONS THE WITNESS:

25 Q. Mr. Frigo, I just have a couple. I wasn't able to

1 track the exact page in the note, but I think you'll
2 just likely just know this. But you at one slide had a
3 I think cost of project at \$432 million, and over a
4 hundred-year period I believe it was, it looked as
5 though the benefits, then, would be I think you used
6 the term five times higher than that construction cost.

7 So over that hundred-year period of potential
8 losses that are averted, were those discounted back to
9 today's dollars? Because the construction costs are
10 today's dollars, so is that how that calculation was
11 made, and if not, how was it -- how was it calculated?

12 **A. In the IBI analyses and most of the damage, or pardon**
13 **me, benefit-cost analyses that have been completed**
14 **throughout not only the SR1 project but other projects,**
15 **that is the usual approach is to discount back and**
16 **account for a differential, if you will, between the**
17 **time value of money and the time value of the asset**
18 **that's being protected.**

19 For a number of reasons that were outlined in the
20 slide that we presented, as well as in Exhibit 229, our
21 written submission, we're suggesting that it's very
22 reasonable to look at undiscounted values. The reasons
23 for this were listed on the slide, but they do include
24 the fact that operation costs as we've learned as the
25 owner/operator of major infrastructure, that is always

1 improved over time.

2 And so the accounting for those costs and some of
3 the other factors, the long design life and the fact
4 that the asset class, even with no redevelopment, so
5 even without redevelopment, it's very difficult to
6 project what the urban fabric, including all the
7 cultural, historical, and economic assets embedded
8 within it, would be worth at a hundred-year timeframe.

9 From that perspective, the -- the validity or I
10 guess the relevance of discounting over these long time
11 frames becomes much more questionable. That is why the
12 City of Calgary considers it reasonable to take the
13 \$27.7 million AAD, extend that straight over the
14 100-year period, and compare that with the capital
15 costs.

16 Again, other factors like climate change and the
17 increase in potential averted damages not only to
18 climate change but because of the valuation changing of
19 the asset class as being protected would be reasons to
20 consider that that would be a way of approaching the
21 cost benefit.

22 Q. So the 27 million average annual damages, I presume,
23 and maybe I have this wrong then, I had presumed that
24 that was a discounted sort of area under a loss group
25 over time because you don't have damages every year, so

1 representing what the average annual would be if you
2 look at a stream of potential losses floods in certain
3 years in the future, discount that back, and then
4 average it. Is that how the 27 million was derived or
5 was it derived some other way without discounting, as
6 well?

7 A. That's very close, Mr. Chairman, but it does account
8 for only the present value. So you're absolutely
9 correct. It is the area under the curve of the present
10 value of the losses multiplied by the present
11 probabilities.

12 So the 1 in 20-year flood damages multiplied by
13 that probability, plus for the 1 in 50, for the 1 in a
14 hundred, 1 in a thousand, that creates that 27 million.
15 But recognize that that 27 million represents the
16 average annual damages in today's value and with
17 today's asset class. Precisely why the City of Calgary
18 is suggesting that it's reasonable to extend over that
19 long time frame.

20 And again, that that hundred-year timeframe really
21 relates to the fact that most of the appurtenances
22 (verbatim) and components of the SR1 project would have
23 very extended design life. The core of the damage, the
24 diversions structure, these are earthworks that would
25 likely remain in place for that long period.

FRANK FRIGO

Questioned by the Chair

1 Q. Okay. My new question related to the slide that you
2 had the pie chart, it was a pie chart I believe where
3 you had figures based on fairly recent infrastructure
4 upgrades to protect certain flood damages that were
5 implemented by the City of Calgary which brought down
6 the average annual damages. So -- and then it was
7 compared to the \$27 million which is the average annual
8 for the Elbow. The Bow damages were there, as well,
9 and that would be something for some future analysis
10 and response by the City and perhaps province not part
11 of this today.

12 But sort of Mr. Rae's point I guess, in terms of
13 separating those two, my question is not such much
14 around the separation, if you were separated on that
15 slide, but what was the return period for those
16 Bow River damages? Was that what the flood levels of
17 2013 or the potential former range of floods that could
18 occur on the Bow and then the damages associated with
19 those?

20 A. Total range, sir. So everything from the 1 in 2 all
21 the way up to the 1 in a thousand.

22 Q. Okay, thank you.

23 THE CHAIR: Okay, thank you, that's all my
24 questions.

25 Now, does Ms. Senek, do you have any redirect?

1 MS. SENEK: I do have a few, Mr. Chair. And I
2 also have one housekeeping item, as well, that I
3 neglected to mention at the outset of our evidence.

4 **MS. SENEK RE-EXAMINES THE WITNESS:**

5 Q. I sent an email to the Board and to counsel for all the
6 parties yesterday that there were a couple of errors in
7 the City's written submissions in Exhibit 229.
8 Ms. Friend reminded me that this had not been mentioned
9 throughout the hearing.

10 The errors were to the final paragraph on page 7
11 going into page 8 of Exhibit 229. There it states that
12 400 million in insurable losses to City-owned
13 infrastructure would not have been incurred had SR1
14 been constructed and functioning during the 2013 flood.
15 Sorry, I realize somebody is not on there.

16 The City referenced the wrong number here. Only a
17 portion of the 400 million were attributable to the
18 Elbow River. The estimated total potential damages are
19 \$600 million for another flood equal to what was
20 experienced along the Elbow in Calgary in 2013.

21 And perhaps I should have Mr. Frigo confirm that
22 this is correct for the purposes of evidence. Can you
23 confirm that? You're muted, Mr. Frigo.

24 **A. Apologies, yes, confirmed.**

25 Q. Thank you. And another point is just a minor editorial

1 point for ease of reference. In the footnotes of the
2 City's submissions, where Appendix A was referenced, it
3 should actually reference Appendix B throughout.
4 That's the City's technical memo, and I just wanted to
5 ensure that everybody was aware of that.

6 I do have a couple of questions on redirect,
7 sorry, just let me get my place here. The first has to
8 do with the letter that Mr. Rae submitted into evidence
9 this morning; I think it was Exhibit 350. Where are
10 we? And I believe he'd asked a question about the
11 statement on page 5 of 8 of that PDF document where it
12 says: (as read)

13 "The City will be able to focus more of
14 its resources for emergency response on
15 the Bow River where around 85 percent of
16 the City's flood risk will remain after
17 SR1 is built."

18 Mr. Frigo, is that 85 percent of flood risk total to the
19 City that we're talking about here or that is referenced
20 there?

21 **A. Yes, it is. So we recognize that even with SR1 in**
22 **place, some residual risk will occur and that some**
23 **modest damages, the closure of pathways, minor erosion,**
24 **will occur with SR1 in place.**

25 So yes, the total to the City of that total, that

1 is what we're referring to, Ms. Senek.

2 Q. And is that risk directly related to the Bow River?

3 A. Primarily related to the Bow River. As I mentioned, no
4 flood mitigation measures remove all risk; there is
5 always a residual. So it's primarily to the Bow River.

6 There'd be a very small component associated with
7 residual risk on the Elbow. Again for events that are
8 occurring larger than 200-, 300-year return period, so
9 extremely rare events which again, over time, don't --
10 don't accumulate to a significant portion of the totals
11 damage but are still a component that was included.

12 Q. Thank you.

13 Next question, in City reports, reports that are
14 authored by the City, typically when community
15 engagement is referenced, is that referring to
16 communities within the city of Calgary's boundaries?

17 A. Primarily, yes. In the context of this work and these
18 reports, it was important for the City of Calgary to
19 understand how its citizens were first of all impacted
20 by flood but also what the city of Calgary's citizens'
21 values around different mitigations could represent.
22 And we wanted to incorporate that into all the
23 analysis.

24 So yes, primarily.

25 Q. Thank you. Sorry, just finding the rest of my

FRANK FRIGO

Re-direct by Ms. Senek

1 questions here. Is -- just a quick question here, are
2 you an expert in the field of insurance?

3 **A. No, no, I'm not. I definitely have, through my work on**
4 **flood mitigation and various other risks, been exposed**
5 **to the insurance industry, but I'm not a technical**
6 **engineer registered by APEGA.**

7 **Q. Thank you. And my last question is is SR1 still**
8 **beneficial for flood mitigation within the City of**
9 **Calgary without an upstream reservoir on the Bow River?**

10 **A. Absolutely. I hope that was very clear from the**
11 **presentation that was made.**

12 The pie chart, the inundation mapping, the tables
13 that were presented in the presentation aim to make
14 that very clear. The impact of SR1 is very significant
15 without the upstream elements on the Bow.

16 **Q. Thank you.**

17 **A. They are a part.**

18 **Q. Sorry, did you have -- thank you.**

19 **A. Sorry, I was just going to again add that the City has**
20 **a cohesive plan for the entire city, so we've certainly**
21 **not forgotten about the other communities that would**
22 **not directly hydraulically benefit from SR1.**

23 **MS. SENEK:** Thank you very much. Those are
24 all of my questions.

25 **THE CHAIR:** Thank you, Ms. Senek. Thank you,

FRANK FRIGO

1 Mr. Frigo.

2 So we'll break for lunch; I just have one
3 housekeeping. So after lunch will be the Calgary River
4 Communities Action Group. So Mr. Cusano, are you ready
5 to go at 1:15?

6 MR. CUSANO: Yes, sir, we are. And if it's
7 helpful, sir, in managing time, we had requested
8 50 minutes for direct evidence. I can tell you and
9 Board members and the parties that that actually is
10 more like 35 minutes, and we'll be ready to go after
11 the break.

12 THE CHAIR: Okay, thank you. And do I have it
13 right, you have -- is it a video that you're showing or
14 is that another group?

15 MR. CUSANO: No, that's true, sir, yes. We
16 have an opening statement and then a video which we'll
17 play towards the very end of the opening statement.

18 THE CHAIR: Perhaps could I ask that -- and is
19 it Ms. Cundliffe, are you on now; is it Ms. Taylor
20 later on for our document managing?

21 MS. CUNDLIFFE: Yes, Mr. Chairman. I'm on right
22 now, but Ms. Taylor will be this afternoon's document
23 manager.

24 THE CHAIR: So perhaps we can make sure that
25 that is running before the 1:15 start time. So if

FRANK FRIGO

1 there's any difficulties, I mean the video and the
2 sound might be a little trickier, but just to make sure
3 we have that working before we start at 1:15.

4 MS. CUNDLIFFE: Yes, sir.

5 THE CHAIR: Thank you.

6 MR. KENNEDY: I can ensure the Panel in all our
7 tests, we got it working perfectly.

8 UNIDENTIFIED SPEAKER: Thank you, Mr. Kennedy.

9 THE CHAIR: Thank you, and reconvene at 1:15.

10 (PROCEEDINGS ADJOURNED AT 12:09 P.M.)

11

12 PROCEEDINGS ADJOURNED TO 1:15 P.M.

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1 Volume 2

2 March 23, 2021

3 P.M. Session

4

5 (PROCEEDINGS COMMENCED AT 1:15 P.M.)

6 THE CHAIR: Okay. It's just after 1:15, so I
7 think we can get started.

8 Mr. Cusano, welcome, and the floor is yours.

9 MR. CUSANO: Thank you, sir. I believe we're
10 ready to go.

11 I'm pleased, sir, and Board members, to introduce
12 the panel for the Calgary River Communities Action
13 Group, or as we may refer to this group on occasion,
14 the Action Group and Flood Free Calgary, or FFC.

15 Seated, virtually at least, are
16 Brenda Leeds Binder and Tony Morris from the Action
17 Group, and Paul Battistella from FFC.

18 Sir, I can confirm that our witnesses are all in
19 separate locations, and Mr. Bruni and I are, and will
20 continue to be, in locations separate and apart from
21 the witnesses.

22 May we have the witnesses sworn, please.

23

24 **B. LEEDS BINDER, T. MORRIS, P. BATTISTELLA** (For CRCAG and
25 **FFC), sworn/affirmed**

B. LEEDS BINDER, T. MORRIS, P. BATTISTELLA
Examined by Mr. Cusano

1 **MR. CUSANO EXAMINES THE PANEL:**

2 MR. CUSANO: Thank you, Madam Reporter.

3 Q. Ms. Leeds Binder, may I begin with you, please? Would
4 you please state your full name and your position with
5 the Action Group?

6 A. MS. LEEDS BINDER: My name is Brenda Leeds Binder,
7 and I am the co-president of the Action Group.

8 Q. And how did the Action Group come to be and what is its
9 mandate?

10 A. MS. LEEDS BINDER: The Action Group was formed in the
11 immediate aftermath of the 2013 flood following emails
12 between friends that grew to community-wide discussions
13 and ultimately a meeting organized by community leaders
14 that attracted hundreds of concerned citizens.

15 The Action Group's purpose includes: To serve as
16 an advocate for large-scale flood mitigation and to
17 participate in legal and regulatory proceedings, to
18 advocate for such projects.

19 Once the government of Alberta identified SR1 as
20 the preferred project, the Action Group has worked
21 tirelessly to engage with all levels of government and
22 participate in both provincial and federal regulatory
23 processes in support of the project.

24 We represent approximately 1,000 members and
25 additional supporters, many of whom were affected by

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1 the 2013 flood.

2 Q. Now, Ms. Leeds Binder, you are coming up on eight years
3 volunteering for this organization. Why is this cause
4 so important to you?

5 A. **MS. LEEDS BINDER:** I live in East Elbow Park with my
6 husband and three children. In June of 2013, our first
7 spring living in a home we had purchased only six
8 months prior, our lives were turned upsidedown by the
9 flood. Our home was severely impacted, but the
10 physical cleanup was only the beginning.

11 The financial, emotional, and mental toll was far
12 more devastating and endures to some degree to this
13 day.

14 When the Action Group was launched in the summer
15 of 2013, I knew I wanted to be involved. I felt that
16 the residents of the city needed to mobilize. I
17 believe it's unconscionable for a city of this size and
18 significance to the economy of our province to continue
19 year after year to be unprotected against a foreseeable
20 and inevitable flood disaster. For that reason, I have
21 devoted literally thousands of volunteer hours to this
22 cause.

23 Q. Ms. Leeds Binder, do you have before you copies of the
24 Action Group's and FFC's evidence that was filed on
25 February 26, 2021 in this proceeding?

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1 **A. MS. LEEDS BINDER:** **Yes.**

2 **THE CHAIR:** Mr. Cusano, sorry to interrupt.

3 Ms. Leeds Binder is quite easy to understand. Your
4 voice is a bit muffled.

5 Ms. Vespa, can you hear him, or is it difficult?

6 It looks like it's a little difficult for the court
7 reporter as well. I'm not sure why. Maybe give it
8 another try.

9 **MR. CUSANO:** Very well. I'll speak louder.

10 **THE CHAIR:** Perfect. Yeah, that's very good.

11 Thank you.

12 **MR. CUSANO:** Thank you.

13 **Q.** Ms. Leeds Binder, I will ask you again, do you have
14 before you copies of the Action Group's and FFC's
15 evidence that was filed on February 26, 2021 in this
16 proceeding?

17 **A. MS. LEEDS BINDER:** **Yes.**

18 **Q.** How is this evidence organized?

19 **A. MS. LEEDS BINDER:** We have filed a written
20 submission, which is Exhibit 237 with four appendices
21 filed as Exhibits 238 to 241. Appendix A, Exhibit 238,
22 contains two documents. Document A1 is a series of
23 calls to action by the Action Group and Flood Free
24 Calgary to their members and other residents of
25 affected communities to share their stories of the 2013

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1 flood.

2 Document A2 is a copy of the survey that the
3 Action Group and Flood Free Calgary provided online
4 where respondents were asked to provide their names,
5 how much they were impacted by the 2013 flood, how they
6 stand to be protected by SR1, and whether they support
7 approval of SR1.

8 Appendix B, Exhibit 239, contains 218 letters and
9 email submissions from the Action Group and FFC members
10 and other community members who responded to our calls
11 to action and support approval of SR1.

12 Exhibit C, Appendix C, Exhibit 240, contains the
13 393 survey responses from our online survey.

14 Lastly, Appendix D, Exhibit 241, contains
15 materials referenced in our written submission.

16 Q. Were Exhibits 237 to 241 prepared either by you or
17 under your direct supervision and control?

18 A. MS. LEEDS BINDER: Yes.

19 Q. Do you adopt these exhibits as the Action Group's
20 evidence in this proceeding?

21 A. MS. LEEDS BINDER: Yes.

22 Q. Mr. Morris, if I could turn to you, please.

23 Sir, would you please state your full name and
24 your position with the Action Group.

25 A. MR. MORRIS: My name is Tony Morris and I am

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1 co-president of the Action Group.

2 Q. Like Ms. Leeds Binder, you have devoted countless hours
3 to the cause of protecting the City of Calgary from
4 flooding. Tell us why you have taken this on.

5 A. MR. MORRIS: My wife and I and our three sons
6 moved into the Roxboro community in 2004, and felt we
7 were exceptionally lucky to be able to live in such a
8 great inner city community, and we still do.

9 We were there for the 2005 flood, and we helped
10 some neighbours clean out their basements.

11 We understood at the time that flooding was a very
12 rare occurrence. We learned otherwise in 2013 and how
13 utterly unprepared the city was for a flood of that
14 magnitude.

15 Despite the loss of half of our house and most of
16 our possessions and memories we had in basement
17 storage, we considered ourselves lucky given what so
18 many of our neighbours had to endure.

19 After two weeks of initial recovery at our home,
20 our inner city communities gradually came together to
21 help each other deal with myriad of recovery issues and
22 to eventually urge our elected officials to keep this
23 from ever happening again.

24 I am one of the founders of the Action Group and
25 we've been at this work for almost eight years.

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1 A key reason I'm stuck with it is I've come to
2 realize how vulnerable this city is to a preventible
3 natural disaster, how devastating a flood can be, and a
4 need for a strong and consistent public voice demanding
5 action.

6 In my view, it is incumbent upon us, the affected,
7 to do everything we can do to advocate for flood
8 protection. That's why the Action Group exists, and
9 that's why we are participating in this hearing today.

10 Q. Mr. Morris, were the materials in Exhibits 237 to 241
11 summarized by Ms. Leeds Binder prepared either by you
12 or under your direct supervision and control?

13 A. **MR. MORRIS:** Yes.

14 Q. And you adopt these exhibits as the Action Group's
15 evidence in this proceeding?

16 A. **MR. MORRIS:** Yes.

17 Q. Thank you, sir.

18 Mr. Battistella, please state your full name and
19 your position with FFC.

20 A. **MR. BATTISTELLA:** My name is Paul Battistella, and I
21 am the founder of Flood Free Calgary.

22 Q. And, sir, what is FFC, or Flood Free Calgary?

23 A. **MR. BATTISTELLA:** FFC represents over 40 businesses,
24 business associations, community associations, and
25 other organizations focused on protecting Calgary

1 **businesses and residents from flooding.**

2 **Q. And when was FFC founded and why?**

3 **A. MR. BATTISTELLA: FFC was launched in January of**
4 **2018 to advocate for timely flood mitigation for**
5 **Calgary on behalf of Calgary's business community.**

6 **Mobilizing business and community leaders, the**
7 **group seeks to keep Calgary's flood risk top of mind of**
8 **policymakers and to be the vocal advocates in support**
9 **of critical upstream flood mitigation infrastructure.**

10 **Q. Sir, you've been volunteering for FFC for four years.**
11 **Can you explain why you have dedicated so much of your**
12 **time to flood protection.**

13 **A. MR. BATTISTELLA: I was born in Calgary, and have**
14 **spent most of my adult life developing and constructing**
15 **almost exclusively in Calgary's inner city.**

16 **The centre city area is not only the economic**
17 **engine for Calgary but for the province. The severe**
18 **impacts on the entire city that have resulted from the**
19 **recession and the pandemic show how critical the**
20 **central business district is to our economic**
21 **well-being.**

22 **Upstream flood mitigation that protects the**
23 **central business district and the neighbouring**
24 **residential and commercial areas is critical to ensure**
25 **Calgary can attract and retain businesses and people to**

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1 our city.

2 The flood of 2013 highlighted the exposure of the
3 downtown core to severe flooding events. We cannot
4 have catastrophic flood risk on top of all of the other
5 challenges that our city and province face when it is
6 within our ability to address it.

7 At this point, a flooded downtown core could be
8 the final nail in the coffin of it being a viable
9 employment area. That would be devastating for the
10 entire city and province, and it is the reason that we
11 advocate so strongly on behalf of the business
12 community.

13 Q. Were the materials in Exhibits 237 to 241 summarized by
14 Ms. Leeds Binder prepared either by you or under your
15 direct supervision and control?

16 A. **MR. BATTISTELLA:** Yes.

17 Q. Do you adopt these exhibits as FFC's evidence in this
18 proceeding?

19 A. **MR. BATTISTELLA:** Yes.

20 Q. Thank you, sir.

21 MR. CUSANO: Mr. Chair and Board members, the
22 Action Group and FFC have prepared an opening statement
23 that the witnesses will take you through, followed by a
24 short video referenced in their written submission that
25 has been filed as Exhibit 237.

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1 We understand that the video is ready for
2 presentation, and Mr. Morris will indicate when it is
3 appropriate to play it, if that's acceptable.

4 Mr. Morris, would you please proceed.

5 **A. MR. MORRIS:** Thank you, Mr. Cusano.

6 Mr. Chair and NRCB Panel members, we appreciate
7 the Board providing us the opportunity to participate
8 in this proceeding, and speak on behalf of our members
9 who include individuals and businesses that were
10 catastrophically impacted by the June 2013 flood and
11 stand to be protected by SR1.

12 The key reason we exist is so that those who are
13 most directly impacted by the 2013 floods are not
14 forgotten.

15 The Action Group and FFC fully support this
16 project and urge the NRCB to find that it is in the
17 public interest.

18 We also ask that the NRCB's approval be granted as
19 quickly as possible and without conditions that would
20 have the effect of delaying construction and operation
21 at SR1.

22 Any delay in approving this project may result in
23 the individuals and businesses we represent
24 experiencing another flood and the devastating social,
25 economic, and environmental effects that come with it.

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1 This is not like most infrastructure projects, as
2 lives remain at risk until this project is completed.

3 Calgary was built over 100 years ago on a
4 floodplain at the confluence of the Elbow and
5 Bow Rivers.

6 The City has always been vulnerable to floods, and
7 we know that it will experience flooding again.

8 We have seen three floods of a magnitude greater
9 than that of 2013. SR1 will provide significant flood
10 risk mitigation to the city and downstream communities.

11 The Action Group and FFC see our role as to
12 impress upon you the critical importance of upstream
13 flood mitigation on the Elbow River and the cost in
14 lives, livelihoods, and properties that is risked by
15 not approving SR1.

16 It's selected by the province and supported by all
17 three levels of government. We are the face of the
18 affected, and we're here to tell you what it is like to
19 endure what was then Canada's worst natural disaster so
20 that you can appreciate the future devastation that can
21 be avoided by SR1.

22 Our written submission outlines some of the
23 quantifiable and non-quantifiable economic, social, and
24 environmental impacts of the 2013 flood.

25 We appreciate that the Board has reviewed our

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1 evidence and we won't attempt to repeat this
2 information for you today. However, there are certain
3 key pieces of our evidence we would like to highlight.
4 The quantifiable impacts of the 2013 flood are
5 significant, and we've included in our evidence
6 references to some of these numbers that stood out for
7 us.

8 Overall damage estimates for the 2013 flood range
9 from approximately 4.875 billion to 6 -- and multiple
10 studies conclude that the benefits of the project are
11 greater than the project's costs.

12 Although price cannot be attached to environmental
13 damage, the following facts are telling: Three years
14 worth of garbage entered the City's landfills in the
15 weeks after the 2013 flood; the province established a
16 \$10 million program called the FISHES Program to
17 mitigate the negative impacts of the flood on fish and
18 fish habitat; and the City spent 100 million dollars
19 repairing erosion damage following the flood.

20 Brenda will now speak to the other impacts of the
21 flood, many of which cannot be quantified.

22 A. MS. LEEDS BINDER: Thank you, Tony.

23 When I see a natural disaster unfold on
24 television, a flood, a wildfire, a tornado, I look at
25 it differently ever since the 2013 flood; that is, ever

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1 since I myself endured and survived a natural disaster,
2 the most costly in Canada's history at that time.

3 News stories come and go, and after the initial
4 spectacle of a huge natural disaster, the media moves
5 on to something else. But I know, from firsthand
6 experience, that the lives of so many people have been
7 altered forever. I know that those people who are
8 victim to whatever disaster has been reported have a
9 very long and difficult road ahead of them. Weeks and
10 months of cleanup, and months, if not years, of stress
11 and worry. And they'll never get back what they've
12 lost; they'll only be able to find a way to move
13 forward.

14 We are participating in this process to relay
15 those accounts to you, to help you, the Board, get an
16 understanding of what it's like to suffer through one
17 of these natural disasters.

18 Mr. Morris spoke to some of the quantifiable costs
19 of the flood. However, many costs cannot be
20 quantified. Let's remember that five lives were lost
21 in the 2013 flood.

22 We hope that the unique perspective that the
23 Action Group and Flood Free Calgary bring to this
24 proceeding will help the Board in assessing this
25 project.

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1 In essence, it is evidence of the experiences and
2 the people behind the statistics of the flood. Our
3 members are the homeowners, residents and businesses
4 whose financial, mental, and physical health suffered,
5 and in many cases, continues to suffer as a result of
6 the 2013 flood.

7 These are the people whose lives, livelihoods, and
8 properties stand in the cross-hairs of the next
9 inevitable flood event.

10 The experiences of our members and other community
11 members are outlined in the hundreds of letters,
12 emails, and survey responses provided in Appendices B
13 and C of our evidence. Included are letters from ten
14 inner city community associations representing well
15 over 43,000 people.

16 In our humble view, the only way to do justice to
17 the personal accounts in these letters is to read each
18 one. These accounts outline the devastation and loss
19 in the immediate aftermath of the flood and the
20 devastating property and financial losses experienced.

21 These accounts also describe the immeasurable and
22 continuing impact of flooding and the enduring flood
23 risk on physical and mental health. Most prevalent is
24 the fear and anxiety of another flood. This is
25 demonstrated from the following account of Season

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1 Prevast in our evidence: (as read)

2 "Every time it rains, my 12-year-old
3 daughter panics and asks, is it going to
4 flood again? She was four years old
5 during the flood in 2013 and its
6 aftermath. For almost eight years,
7 she's worried about something as simple
8 as rain."

9 Nearly every letter in our evidence speaks to the mental
10 health impact of the flood and the effects that continue
11 to linger for so many. This is demonstrated by the
12 following account we received from Greg Clark: (as read)

13 "Our home was devastated, but objects
14 can be replaced and basements rebuilt.
15 What cannot be so easily replaced is the
16 sense of security one should feel in our
17 own homes. The impacts on my mental
18 health and that of my daughter's has
19 been profound and we are still dealing
20 with the longstanding negative impacts
21 in our work and school lives. Even
22 seven years later, we still dread the
23 springtime because it brings back
24 traumatic memories, and our anxiety
25 rises knowing we are unprotected should

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1 the waters rise again."

2 Writing the letters we've included in our evidence was
3 not easy for many of our members. It was not easy for
4 me to write my own account. It dredged up painful
5 memories.

6 An example is a letter written by Doris Schuh who
7 was in her 70s at the time of the flood, and I'll read a
8 brief excerpt now. (as read)

9 "It caused serious harm to our mental
10 health. This was on top of the stress
11 we had from the flood itself. For me, I
12 suffered post-traumatic stress. I had
13 an autoimmune disorder. The stress
14 triggered a flare of symptoms then, as
15 it's doing now as I write. I'm
16 currently suffering foggy brain and
17 stress to have to revisit this event."

18 I thank Ms. Schuh for writing her letter. For others it
19 was truly too difficult. That is why we created an
20 online survey so that our members and other people from
21 the flood-impacted communities who support SR1 could
22 express that support in a way that would take less of an
23 emotional toll. We received 393 survey responses from
24 supporters of SR1.

25 Reading the many letters we received, it was also

1 clear that the loss of items that represented memories
2 was heartbreaking for so many. Dumping these precious
3 reminders of lives lived into a dumpster covered in
4 sewage-contaminated river mud was overwhelming for me.

5 As an example, I'd like to read an excerpt from
6 Cathy Dorrington who resided in East Elbow Park in 2013
7 and had basement and main floor damage. (as read)

8 "I waded through my yard to get to my
9 house and see the devastation.
10 Unimaginable mud everywhere. Furniture
11 had moved, built-ins ripped out of
12 walls. The raging river had literally
13 run through our home. We found Lego
14 blocks stuck to the ceiling of the
15 basement, a dead fish in our trampoline,
16 my freezer filled with muddy
17 water-soaked rancid meat. Destroyed
18 irreplaceable items, including mementos
19 of our children's lives, our wedding
20 photos, and items passed down from
21 parents and grandparents were lost
22 because we never imagined that much
23 water. The cleanup was weeks of
24 exhausting mud hauling, cleaning,
25 demolition, and heartbreak of watching

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1 our ruined belongings fill bin after
2 bin. I watched neighbours cry in their
3 front yards. My children were
4 traumatized."

5 The letters from our members also speak to the
6 significant cost they have incurred on personal flood
7 mitigation, such as rebuilding their homes above the
8 1 in 100-year flood line and moving their utilities out
9 of their basements, all with the expectation that the
10 City and province will do their part to protect
11 citizens.

12 Now is the time and opportunity to finally put the
13 critically needed flood mitigation in place.

14 Paul will now speak to the impact of the 2013 flood
15 and the benefit of SR1 for the businesses Flood Free
16 Calgary represents.

17 A. MR. BATTISTELLA: Thank you, Brenda.

18 Mr. Chairman, it's Paul Battistella speaking.

19 As the representative of Flood Free Calgary, I am
20 here as the voice of the business community that was
21 impacted by the 2013 flood.

22 The Calgary Chamber of Commerce estimates that
23 7,000 businesses were impacted by the flood, a third of
24 which never reopened.

25 4,000 businesses were flooded and experienced

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1 losses. The remainder were indirectly impacted by lost
2 business due to evacuations, power outages, street
3 closures, and the temporary suspension of the LRT.

4 We have included in our evidence submissions from
5 many business and business-related organizations
6 including the Calgary Chamber of Commerce, Calgary
7 Economic Development, Calgary Sports and Entertainment
8 Corporation, the Calgary Stampede, the Calgary
9 Municipal Land Corporation, Build Calgary Region, The
10 Calgary Downtown Association, the Building Owners and
11 Managers Association, and Commercial Real Estate
12 Development Association, to name a few.

13 These letters all express strong support for the
14 SR1 project and concerns about a future flood event in
15 Calgary. They also demonstrate the clear public
16 benefit of SR1 to businesses and the City as a whole.

17 SR1 is a benefit to businesses for several
18 reasons. I would like to highlight four that I have
19 extracted from the letters we have received.

20 The first reason is the protection of current and
21 future physical assets. The 2013 flood had detrimental
22 impacts to existing assets and Calgary's economy,
23 including \$50 million to repair the Calgary Scotiabank
24 Saddledome, \$50 million to repair the Calgary Zoo, and
25 \$65 million to repair the Calgary Stampede grounds.

1 An estimated \$1.254 billion in residential and
2 commercial property and city infrastructure stands to
3 be protected by SR1.

4 In terms of future development, the Calgary
5 Municipal Land Corporation notes in their letter over a
6 billion dollars in public investment is planned in the
7 East Village and Calgary River's District, including
8 the new Event Centre, BMO Centre expansion, and
9 Victoria station LRT rebuild. Flood protection is
10 imperative to the success of these projects.

11 The second reason SR1 would be a benefit to the
12 businesses is a protection of revenues which, in turn,
13 protects the salaries of both owners and employees.

14 The Calgary Zoo alone lost \$10 million in revenue
15 due to the 2013 flood.

16 The 4th Street Business Improvement Area also
17 noted extensive revenue losses due to the lengthy
18 closure of businesses.

19 Many small businesses were also hit hard. One
20 example is First on Colour, a locally owned and
21 operated copier store that was closed for 17 days
22 because of the flood resulting in costs exceeding
23 \$100,000, including wages paid by the company to
24 ensure, quote "as little employee livelihood impact
25 occurred as possible."

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1 A third reason SR1 would benefit businesses is
2 because it reduced the impact on business operating
3 costs; for example, insurance rates.

4 Business interruption insurance premiums increased
5 by 667 percent for the Calgary Sports and Entertainment
6 Corporation and by 367 percent for the Calgary Stampede
7 as a result of the 2013 flood.

8 These examples really cause us to question what
9 would be the impact of another flood on these premiums,
10 and perhaps, more importantly, on their ability to
11 actually secure the insurance they need.

12 The fourth reason SR1 would benefit businesses is
13 to reduce the risk profile for locating and operating
14 business in and to attract business to downtown
15 Calgary. This is evident in the letters we received
16 from Calgary Economic Development, Calgary Downtown
17 Association, and the Calgary Chamber of Commerce.

18 Jennifer Rempel, the general manager of the
19 Calgary Downtown Association, writes: (as read)

20 "Despite severe flooding effects within
21 the relatively small section of the
22 commercial core, the resulting loss of
23 power and street shutdowns throughout
24 the greater downtown area without
25 advance notice had caused devastating

1 impacts to the economy, with more than
2 160,000 displaced office workers and
3 significant disruption to the lives of
4 around 7,000 centre city residents."

5 The letter from Calgary Economic Development
6 demonstrates how imperative it is to have a thriving
7 centre city protected from flooding.

8 Mary Moran, president and CEO of Calgary Economic
9 Development, writes: (as read)

10 "Calgary Economic Development is the
11 steward of our community's economic
12 strategy, Calgary in the new economy. A
13 critical pillar of the economic strategy
14 is in place as we strive to be Canada's
15 most liveable city."

16 Ms. Moran goes on to state: (as read)

17 "We believe that a future flooding event
18 would undoubtedly threaten the progress
19 we have made in our city's liveability."

20 And Ms. Moran concludes her letter by saying: (as read)

21 "We simply cannot afford to have our
22 central business district inaccessible
23 for a week under mandatory evacuation
24 orders, as it was in 2013."

25 Finally, the letter we received from the Chamber of

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1 Commerce speaks to the positive outcomes of the approval
2 of SR1.

3 Murray Sigler, interim CEO of the Calgary Chamber
4 of Commerce, writes: (as read)

5 "The devastating effects of the 2013
6 flood also provided opportunities to
7 build back stronger and prepare for the
8 crises of the future, ensuring we are
9 ready for the next emergency. Today, we
10 continue to earn similar preparedness
11 and action regarding flood mitigation.
12 It is imperative that we protect our
13 community, our businesses, and our
14 economy from another flood."

15 I hope these excerpts and the many letters included in
16 our written submission will assist the Board in
17 understanding the full extent of the devastation caused
18 by the 2013 flood, including to our businesses and
19 economy, and will appreciate that the City cannot and
20 should not leave itself vulnerable to a repeat of this
21 experience or worse in the event of a flood larger than
22 the one in 2013.

23 Thank you.

24 A. MR. MORRIS: The fact remains that nothing that
25 individual homeowners or business owners can do will be

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1 enough to withstand a major flood event. In fact, even
2 the City of Calgary can't protect itself through local
3 mitigation. Only the province of Alberta can protect
4 this city and southern Alberta from the next inevitable
5 flood.

6 A decision that SR1 is not in the public interest
7 is, in our view, a conscious decision to leave the City
8 of Calgary vulnerable to flooding indefinitely, leaving
9 residential property, commercial property and
10 infrastructure unprotected and putting the lives,
11 safety and wellbeing of hundreds of thousands of people
12 living and working in this city at risk.

13 Not approving SR1 adopts an intolerable status quo
14 that will likely result in future flooding of this
15 city.

16 The social, economic, and environmental benefits
17 of SR1 overwhelming support the conclusion that it is
18 necessary, critical infrastructure. We urge the NRCB
19 to find that SR1 is in the public interest and issue
20 its approval as soon as possible. We ask that any
21 conditions imposed not delay construction.

22 We would like to conclude this opening statement
23 with a short video showing one of our member's
24 experiences with the 2013 flood.

25 The video highlights the experience of one family

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1 during and after the flood and is illustrative of the
2 experiences of many residences and businesses in
3 downstream communities that were impacted by the flood.
4 And to allow this video to run smoothly, I ask everyone
5 to please mute your microphones. Thank you.

6 (VIDEO PLAYED)

7 A. MR. MORRIS: We'd like to leave the Board with
8 one final critical thought. This city will flood
9 again, and the only question is will it be ready?

10 And we thank you for the opportunity to speak to
11 our evidence and to make available to you the accounts
12 of our members. This concludes our opening statement.
13 Thank you.

14 MR. CUSANO: Thank you, Mr. Morris.

15 Mr. Chairman, the witnesses are now available to
16 answer any questions that you and the Board may have.

17 I note that Ms. Leeds Binder will act as Chair of
18 the witness panel and will field the questions and/or
19 direct traffic as appropriate. Thank you, sir.

20 THE CHAIR: Okay. Well, thank you. So we'll
21 begin cross-examination in our regular order.

22 So Alberta Transportation, did you have any
23 questions for the panel?

24 MR. FITCH: It's Mr. Fitch. No, Mr. Chairman.

25 THE CHAIR: City of Calgary. Ms. Senek?

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1 MS. SENEK: No, Mr. Chairman, no questions.

2 THE CHAIR: Mr. Rae.

3 MR. RAE: No, sir, we have no questions.

4 THE CHAIR: And Mr. Secord.

5 MR. SECORD: No questions, sir.

6 THE CHAIR: Mr. Williams? Mr. Williams may or
7 may not be on.

8 Mr. Williams.

9 Hearing none. Mr. Wagner?

10 MS. FRIEND: Peter, this is Laura. Mr. Wagner
11 emailed me. He said he has no questions.

12 THE CHAIR: Okay, thank you. I was just going
13 to ask Mr. Wiebe if he was on. Thank you.

14 And we can proceed to Board staff. Mr. Kennedy.

15 MR. KENNEDY: Thank you, Mr. Chair.

16 Thank you, panel. I have no questions.

17 THE CHAIR: Ms. Vance.

18 MS. VANCE: I also do not have any questions.

19 THE CHAIR: And Panel members?

20 Mr. Heaney.

21 **MR. HEANEY QUESTIONS THE PANEL:**

22 Q. Yes, I have just one question.

23 The witnesses talked about what they've done for
24 advocating for upstream measures. Could they speak a
25 little bit to what they've done with -- in terms of

B. LEEDS BINDER, T. MORRIS, P. BATTISTELLA

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1 their activities towards mitigation within the city
2 itself?

3 **A. MS. LEEDS BINDER:** Yes, I can speak to that.

4 Our advocacy efforts over the past nearly eight
5 years have actually been at all three levels of
6 government. So we have most certainly had lots of
7 meetings with representatives from the mayor's office
8 as well as the mayor himself, and we have been kept
9 well informed in terms of the local mitigation efforts
10 that have been undertaken within the balance of the
11 city and those have often been spoken to, for example,
12 by City of Calgary representatives at our annual
13 general meetings.

14 **MR. HEANEY:** Thank you.

15 **THE CHAIR:** Mr. Ceroici.

16 **MR. CEROICI:** I don't have any questions. Thank
17 you.

18 **THE CHAIR:** Ms. Roberts.

19 **MS. ROBERTS:** I have no questions.

20 **THE CHAIR:** Okay, and I have no questions
21 either. But I would thank Mr. Cusano and
22 Ms. Leeds Binder and the entire panel for the work that
23 you've put in to the presentations and your direct
24 evidence. So thank you very much.

25 **A. MS. LEEDS BINDER:** Thank you.

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Questioned by Mr. Heaney

1 THE CHAIR: Mr. Cusano, I don't imagine you
2 have redirect for us, but...

3 MR. CUSANO: I do not, sir. Thank you for
4 asking.

5 THE CHAIR: Thank you.

6 Okay. Mr. Rae, with Stoney Nakoda, are you ready
7 for your direct evidence?

8 MR. RAE: Mr. Chairman, I don't
9 believe -- we do not intend to lead any direct evidence
10 at this time.

11 THE CHAIR: Thank you. Mr. Secord.

12 MS. OKOYE: Mr. Chairman, I'll be leading the
13 evidence for the SCLG Group. It's Ifeoma Okoye.

14 THE CHAIR: Ms. Okoye, thank you. So please
15 proceed.

16 MS. OKOYE: Okay. So just a few items to
17 bring up.

18 The landowner witness panel has reduced from the
19 number that we gave previously. So we do have
20 Ms. Karin Hunter, Ms. Mary Robinson, Ms. Tracey Feist,
21 and an additional person Ms. Marlene Dusdal and
22 Mr. Marshall Copithorne, Ms. Jan Erisman,
23 Brian Copithorne, Lee Drewry, Barbara Teghtmeyer, and
24 Dr. Karen Massey.

25 So those will be presented. If they could be

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Questioned by Mr. Heaney

1 either sworn or affirmed.

2 (DISCUSSION OFF THE RECORD)

3

4 K. HUNTER, M. ROBINSON, K. MASSEY, T. FEIST, M. COPITHORNE,

5 J. ERISMAN, B. COPITHORNE, L. DREWRY, B. TEGHTMEYER

6 (For SCLG), sworn/affirmed

7 MS. OKOYE: I think you're missing one person,
8 Madam Court Reporter. I don't know if you swore in
9 Karen Massey.

10 COURT REPORTER: Yes, I did swear in Ms. Massey.
11 Ms. Massey, you were sworn; correct?

12 MS. MASSEY: Yes.

13 COURT REPORTER: Thank you.

14 MS. OKOYE: Okay, perfect. Thank you.

15 MS. OKOYE EXAMINES THE PANEL:

16 Q. So, first of all, we'll start off with
17 Ms. Karen Hunter. Can you answer, please?

18 A. MS. HUNTER: Yes, I'm here.

19 Q. Ms. Hunter, there has been evidence filed on your
20 behalf in this matter; namely, the SCLG Group
21 submissions filed at Exhibit 247, your submissions,
22 Exhibits 253 and 254, your resume filed as Exhibit 329,
23 and your previously filed submissions which you filed
24 in your capacity as the president of the Springbank
25 Community Association. And you also have here an

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Questioned by Mr. Heaney

1 opening statement. Are these documents accurate to the
2 best of your knowledge and belief?

3 **A. MS. HUNTER:** Yes, they are.

4 **Q.** Do you adopt them as part of your direct evidence in
5 this proceeding?

6 **A. MS. HUNTER:** Yes, I do.

7 **Q.** Can you please tell the Board your role in this
8 proceeding as a member of SCLG?

9 **A. MS. HUNTER:** So I am the president of the
10 Springbank Community Association, and as an
11 association, we've tried to take an interest in things
12 that impact our community, whether something like this,
13 like the SR1 project, or our dealings with Rocky View
14 County on a number of fronts, new developments and
15 developers. We have quite a wide scope at the
16 community association, so this is just one of many
17 things that we participate in. Unfortunately, this is
18 the one we're most involved in at the provincial
19 regulatory level, so that's new for us, but yes.

20 **Q.** Thank you. So your CV, Exhibit 329, you indicate that
21 you're a chartered financial analyst and you're a CFA
22 charterholder with the Chartered Financial Analyst
23 Institute; is that correct?

24 **A. MS. HUNTER:** Yes, that's correct.

25 **Q.** Can you provide the Board a summary of your work

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Questioned by Mr. Heaney

1 experience as a chartered financial analyst?

2 A. Most of my experience has been analysis assistant or
3 assistance to CFO-type roles for presentations to
4 boards, any analysis that needs to be done. I'm quite
5 a generalist by background in terms of my expertise.
6 So I apply finance to operations, to marketing,
7 planning and analysis as well.

8 So sort of I guess what people would call a "jack
9 of all trades."

10 Q. Thank you. If I may ask the document manager to pull
11 up the opening statement that was prepared by
12 Ms. Hunter.

13 A. MS. HUNTER: And could I also while I'm -- I
14 recognize I have a presentation in file or on record,
15 for today, I do have something I want to show, which is
16 Exhibit 258, page 348, if that's possible just while I
17 do my opening remarks.

18 THE CHAIR: So that is Exhibit 258.

19 A. MS. HUNTER: 258, page 348; correct.

20 THE CHAIR: And your opening remarks were an
21 exhibit?

22 A. MS. HUNTER: No, they were just sent in. So I
23 don't know. I apologize for my naivete when it comes
24 to this type of process.

25 So I have a PowerPoint presentation I'll be going

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Questioned by Mr. Heaney

1 through, but while I deliver some opening remarks that
2 are not directly attributable to that PowerPoint, I'd
3 like to refer to this Exhibit 258.

4 THE CHAIR: Ms. Okoye, you asked -- is there
5 another document you wanted up, and Ms. Taylor, do you
6 know that document?

7 MS. OKOYE: No, we'll just start off with the
8 opening statement, and then when it's time for
9 Ms. Hunter to refer to Exhibit 258, she can have that
10 called up.

11 MR. KENNEDY: And Ms. Hunter, while they're
12 pulling that up, just so the court reporter can keep
13 up, you speak very rapidly, and it can be a challenge.

14 A. MS. HUNTER: I apologize, I will do my best.
15 And yes, that is the document I see. So it's page 258.

16 Q. MS. OKOYE: Do you want to start off with
17 this, or do you want to start off --

18 A. MS. HUNTER: Yes, I think I do. I think I
19 would like to start out with this, Ifeoma, and then
20 after just a couple of minutes of remarks, I'll move to
21 the other document which is a PowerPoint presentation.

22 So page -- I'm sorry, page 348. Is that what I
23 said?

24 So this is AEP draft hazard flood mapping, and
25 page 358, sorry, I'm just going to pull it up on my

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Questioned by Mr. Heaney

1 screen. I have it in front of me. So this, the intent
2 of this is to show Bragg Creek, and I recognize the
3 2013 floods were terrible for many communities along
4 the Elbow River, so I'll refer to this in a moment.

5 At any rate, thank you, Panel, for your time
6 today, and thank you for the opportunity for the
7 affected community of Springbank to acquire the
8 services of independent experts.

9 I would like to start by saying I am here on a
10 volunteer basis. I am a mom of four kids who is
11 concerned about the safety and viability of my
12 community and our at-risk populations including
13 children, the elderly, and those with compromised
14 health.

15 I ask again for a little bit of latitude as this
16 is my first foray into an NRCB hearing, and I'm sure I
17 will, you know, maybe not be in line with all the
18 etiquette.

19 So page 348 of this document, I'm just going to
20 make sure that's page 348, yeah, that's correct, shows
21 Bragg Creek at a 1 in 350 flood event. So 1 in 350
22 flood event, according to AEP and their flood mapping,
23 their flood hazard mapping, is a rate in the river of
24 1,440 with a 95 percent competence interval between 891
25 and 2,520 metres cubed a second.

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Questioned by Mr. Heaney

1 The question becomes if you can choose a project
2 that will save this town, why wouldn't you?

3 The Bragg Creek berms are nearly complete up to a
4 level of 990 cubic metres per second. 1 in a hundred
5 plus some freeboard.

6 Assuming that SR1 is built, Bragg Creek berms are
7 not built to stop overland flooding from a 1,440 cubic
8 metre flood, and the town is effectively underwater.
9 The centre of this diagram or image you see before you
10 is the Balsam Avenue bridge; I highlit (verbatim) it
11 for your reference.

12 So this is the only bridge linking west
13 Bragg Creek with an access out of the community, and as
14 you can see, water surrounds this bridge as it happened
15 in 2013.

16 So there are consequences to choosing SR1 which is
17 downstream of this community, and there are
18 consequences of ignoring and limiting analysis on rates
19 that would result in a clearer comparison between SR1
20 and MC1.

21 Now, if I can just ask you to go to page 350 on
22 this document, two pages down, and that shows the
23 townsite of Redwood Meadows at the same 350-year flood
24 at a flow rate of 1,450.

25 So as you can see, the townsite of Redwood Meadows

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1 would be underwater. I find it interesting that the
2 proponent does not know what level of flood mitigation
3 these berms are built to in Redwood Meadows; it would
4 seem something important to know. Sorry, excuse me.

5 As if we're referring to SR1 as part of a system,
6 what type of mitigation is afforded for this townsite
7 of Redwood Meadows, which here is evidently affected in
8 a material way by a 1 in 350-year flood of 1,440 cubic
9 metres a second.

10 I ask the same question, if you could save this
11 community with the MC1 option, why wouldn't you? That
12 would limit rates in the river to 830 cubic metres per
13 second according to Exhibit 101, page 46, the MC1
14 conceptual design report for both communities assuming
15 berms similarly built to 990 cubic metres a second.
16 830 cubic metres per second per water exiting MC1 would
17 pass safely I imagine with some groundwater flooding
18 but no overland flooding for these communities.

19 I think it's easy to get lost in the focus on the
20 city of Calgary; and I understand that, I appreciate
21 it. No one wants to see the city of Calgary flood.
22 That said, this is a series of communities that are
23 impacted in perpetuity by this choice before the Panel.

24 In spring 2018, I attended an open house in west
25 Calgary for SR1 and realized for the first time that

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Questioned by Mr. Heaney

1 SR1 would forever change our community. It was there
2 that I first heard of air quality issues, specifically
3 a Board reference to: (as read)

4 "The potential to exceed air quality
5 objectives for up to four days following
6 drainage of SR1."

7 Up until that point, I had believed it would just impact
8 a few landowners which is how the project was presented
9 by the Alberta government. From that point forward as
10 president of the Springbank Community Association, our
11 Board undertook to learn about the project and educate
12 area residents. We did see that there was a lack of
13 information within our community about SR1, and we felt
14 that it was important role to host some information
15 sessions with the information that had come out through
16 the EIA. I have always tried, to the best of my
17 ability, to be accurate and truthful with regard to SR1.

18 In December 2018, Rocky View County Exhibit 255
19 released a report on the SR1 project and requested that
20 the government of Alberta halt the project until
21 alternatives could be fairly assessed. They identified
22 issues with the decision process, including the use of
23 value-based judgments and the quick elimination of the
24 Priddis diversion. The County was also concerned about
25 the impacts of sedimentation --

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Questioned by Mr. Heaney

1 Q. MS. OKOYE: Can you slow down?

2 A. MS. HUNTER: Oh, I'm sorry.

3 THE CHAIR: Yeah, I was just going to jump in
4 and ask Ms. Vespa, are you keeping up?

5 THE COURT REPORTER: Barely, but unfortunately I can't
6 take my hands off the keys writing to put my hand up.
7 So I appreciate your help and slow down.

8 THE CHAIR: Yeah, so Ms. Hunter --

9 A. MS. HUNTER: Apologies.

10 THE CHAIR: If you could.

11 A. MS. HUNTER: Noted.

12 THE CHAIR: Just a little bit slower, thank
13 you.

14 A. MS. HUNTER: Thank you.

15 The County was also concerned about the impacts of
16 sedimentation in the reservoir. Yet, in 2020, Rocky
17 View County, our municipality responsible for the
18 safety and viability of our community, signed an
19 agreement with the proponent to withdraw opposition in
20 exchange for compensation.

21 Did Alberta Transportation communicate to Rocky
22 View County at any point that MC1 was superior for
23 mitigation at rates -- than SR1 at rates far above the
24 levels contemplated of 1,240 in a design flood.

25 Meanwhile, the agreement with Rocky View County

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Questioned by Mr. Heaney

1 seems to preclude Rocky View County even from working
2 with us, their residents, to identify mitigation
3 measures. Is this how business is done in Alberta?
4 Secret deals, non-disclosure agreements?

5 I ask the Panel to consider whether this silencing
6 of opposition will result in the best possible public
7 interest outcomes of a project that is publicly funded
8 and impacts hundreds of thousands of people.

9 From day one, we have asked for transparency in
10 the costs of this project and its consequences. It is
11 now clearly evident the proponent has misled the public
12 about SR1's ability to manage large floods relative to
13 the alternative at MC1. It has misled our community by
14 obfuscating the fact that we are actually -- we will
15 actually still experience flooding even if SR1 works as
16 it should.

17 We implore this Panel to create this much-needed
18 transparency as this project is paid for by our public
19 funds and impacts generations of Albertans. The lives
20 and property of Rocky View County and city of Calgary
21 residents depend on this decision now and well into the
22 future.

23 The proponent likes to say, "It is too late to
24 turn back on SR1." Need I reference a common analogy
25 for "it's too late to stop"? It is not too late. I

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Questioned by Mr. Heaney

1 will contend that it is the right time to stop. At
2 what point is new evidence that indicates the project
3 is not sufficient to achieve its purpose relative to
4 the alternative reviewed and considered?

5 The project is not under construction. I assume
6 most land and facilitation agreements have clauses that
7 allow them to unwind. In my view, it's not the Panel's
8 responsibility to manage the proponent's timeline.
9 It's not the responsibility of the Panel to approve a
10 project just because people want it built. It's not
11 the fault of this Panel, the regulators, or Springbank
12 residents who have raised -- and area residents who
13 have raised concerns that this project has dragged on
14 for years. The responsibility for the delay falls
15 squarely on the proponent's shoulders.

16 Transportation Minister likes to say that SR1 is
17 for the greater good. I ask this Panel to consider for
18 whose greater good? Have we established the purpose of
19 the project is to protect the city of Calgary below the
20 Glenmore Reservoir?

21 SR1 does not appear to be the project that's best
22 if a bigger flood comes down the river than 2013. What
23 about residents of other Elbow River communities,
24 including Springbank, Elbow Valley, and Discovery
25 Ridge? What about Bragg Creek and Redwood Meadows,

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Questioned by Mr. Heaney

1 too? What about future generations of Albertans across
2 southern Alberta who need to draw water, our most
3 precious resource, from a river with declining flows?

4 We have a particular responsibility here. The
5 Elbow River begins in the head waters and serves over
6 half a million people in Calgary before joining the
7 Bow River to serve southern Alberta. We must be
8 utterly diligent, thorough, and objective when making
9 infrastructure decisions.

10 And with that, if it's possible to pull up the
11 PowerPoint presentation.

12 MS. OKOYE: Document manager, if you could
13 pull up the PowerPoint presentation by Karin Hunter
14 that was sent in yesterday. Thank you.

15 A. MS. HUNTER: Thank you. If you could go to the
16 next page, I will speak to four topics today as
17 outlined here.

18 Project purpose and need. Briefly, the focus of
19 this project has always been Calgary. It has taken us
20 until now, actually now in the last couple of weeks, to
21 fully understand the complexities and shortcomings of
22 this unique diversion, plus temporary impoundment. In
23 fact, I wonder if we still do not have all the
24 information we need to make the decision that is before
25 this Panel.

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Questioned by Mr. Heaney

1 Right off the start for our community that sits
2 between SR1 and Glenmore, SR1 creates a level of flood
3 mitigation that is below the 1 in a hundred standard
4 for Canada, Alberta, and Calgary.

5 Yesterday, Matt Wood was kind enough to remind us,
6 once again, that we don't count, "That's what you get
7 for living near a river." I probably can get you the
8 exact quote; it's later on in my speech.

9 Now regarding costs. The costs continue to
10 increase. You heard yesterday pipeline cost estimates
11 won't be available until May. The CF conditions and
12 our own SCLG risk report, I highlighted conditions that
13 are substantial and costly and I would argue necessary.

14 Does anyone think that none of these conditions
15 will be applied? Even according to the proponent's own
16 information in Exhibit 100, MC1 has more favourable
17 cost -- benefit-cost ratio.

18 I am appalled that in a 2018 EIA, a calculation
19 error understated certain scenarios for air emissions
20 by a factor of two. It is only because of the
21 participation of Springbank residents, Springbank and
22 area residents, that this came to light.

23 Highlighted in yellow is the question I asked this
24 Panel: (as read)

25 "What amount of time should children and

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1 our broader community be intentionally
2 and knowingly exposed to air quality
3 that creates unacceptable short-term
4 risks to human health? Why would we
5 choose this outcome?"

6 AT's expert can debate our expert on the size of the
7 issue, but they both agree it is an issue.

8 Regarding the alternative: McLean Creek. The
9 proponent said even yesterday that Exhibit 101 was still
10 conceptual.

11 So to clarify, the 2017 report on MC1 is
12 conceptual, and it was signed, dated, stamped by
13 engineers. What does that make the 2014 report on SR1
14 that was used all the way through 2015 to arrive at the
15 decision? I find this absurd. The fact that we see for
16 the first time MC1 is so superior as an in-stream dam
17 for flood mitigation long after the decision was made.
18 Note that the 2000 -- the MC1 report was 2017, and the
19 decision on SR1 was made in fall of 2015.

20 How can a decision on flood mitigation projects be
21 made without regard or comparing the two at various
22 rates? MC1, according to Exhibit 101, is equal to SR1
23 or superior at every level of flood to at least 1 in a
24 thousand as is in that -- or to 1 in a thousand as is
25 contained in Exhibit 101, page 46.

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Questioned by Mr. Heaney

1 Regarding engagement. We were led to believe SR1
2 and MC1 were equal for flood mitigation, that SR1, plus
3 Bragg Creek berms, was equal to MC1 for flood
4 mitigation. It is clear SR1 and MC1 are not equivalent.

5 MC1 is superior for flood mitigation as an
6 in-stream dam, a conventional in-stream dam. MC1
7 creates more equitable outcomes and protects to a higher
8 flow rate.

9 Exhibit 101 again shows an in-stream dam is
10 superior to this unusual capped diversion. I ask when
11 did the proponent know MC1 was superior for all of us
12 along the Elbow River?

13 If you could flip to two pages actually, skip past
14 the next one.

15 MR. SECORD: Ms. Hunter, it's Richard Secord
16 here. If you would please refer to the page number of
17 the slide.

18 A. MS. HUNTER: I'm sorry. Page 4.

19 MR. SECORD: Thank you.

20 A. MS. HUNTER: Thank you.

21 In 2015, as I mentioned, AEP chose SR1. This is
22 from the Exhibit 252 report, "Flood Mitigation
23 Decisions on the Elbow River," it was less expensive,
24 more environmentally friendly, and could be developed
25 on a shorter timeline.

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Questioned by Mr. Heaney

1 I note that there has been some discussion of the
2 Bow River. The proponent itself in Exhibit 325, page
3 8, referred to water management system that included
4 the Bow and the Elbow. This statement implies the
5 following: No. 1, AT agrees SR1 is part of a system on
6 the Bow and Elbow Rivers to manage both flood and
7 drought and that regulators should consider SR1 as part
8 of a package. AT states that the Bow River will be
9 used for drought mitigation.

10 No. 2, the proponent would like this Panel to
11 ignore the reality that SR1 cannot address drought
12 because this future reservoir on the Bow River. I may
13 have missed a press release because in my reviews of
14 the three Bow River options, one of which impacts the
15 community of Springbank, the new Bow River project is
16 not a done deal to say the least.

17 Should this Panel approve SR1, which has no
18 drought mitigation capabilities, just because a future
19 hypothetical project will bring that functionality on
20 the Bow River.

21 No. 3, by referencing drought, it is clear the
22 proponent acknowledges that drought is in fact a
23 concern for our watershed. Given the importance of
24 drought, the MC1 drought management capabilities
25 referenced in Exhibit 101, although much smaller than

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Questioned by Mr. Heaney

1 the capabilities proposed on the Bow, should be
2 considered by this Panel. If the Bow River project
3 does not proceed or does not proceed in a reasonable
4 timeline, isn't storage on the Elbow all the more
5 critical?

6 No. 4: AT's reference to the Bow River Calgary's
7 future drought needs highlights the bias in this
8 process. Given declining flows in the Elbow River,
9 climate change, and the increased risk of fire,
10 upstream communities will be the casualties of water
11 shortages on the Elbow River. Is the proponent aware
12 that Rocky View County, Tsuut'ina, Redwood Meadows
13 residents draw their water from the Elbow River, and we
14 would appreciate some drought management capabilities
15 as well.

16 Regarding the Elbow River, SR1 system includes
17 berms, upstream berms at Bragg Creek and
18 Redwood Meadows. When SR1 was selected in
19 Exhibit 250 -- sorry -- geez, when it was originally
20 announced in 2014, it was designed as a 1 in 100 flood
21 mitigation project to protect against a 1 in 100 level
22 of flood. And so were the Bragg Creek berms, yet in
23 the fall of 2015, SR1's capacity and diversion was
24 doubled. The capacity was not quite doubled; the
25 diversion was doubled. SR1 was increased to a 1 in 200

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Questioned by Mr. Heaney

1 level of flood mitigation, and here is the first break
2 in equity.

3 Bragg Creek remained at 1 in 100. Why was
4 Bragg Creek not increased to 1 in 200 when SR1 was
5 increased to 1 in 200? This is the first clearly
6 unequal outcome created by SR1.

7 Meanwhile, our community has always been under the
8 impression that SR1 would provide equal flood
9 mitigation for us, too. MC1 and SR1 were presented as
10 equal by AT with both storing the same volumes. Our
11 analysis now affirmed by the proponent in Exhibit 325
12 that our communities upstream of Glenmore receive a
13 level of flood mitigation that is below Alberta's
14 guidelines for flood mitigation projects which states a
15 minimum standard for flood mitigation of 1 in 100.

16 This creates the second inequity, one in which we
17 were not aware of until this year. If we were
18 protected on a standalone project built to 1 in 100,
19 that would be similar to the Bragg Creek berms
20 protection up to 990 metres cubed per second.

21 The city of Calgary downstream of Glenmore is
22 theoretically protected up to 1,240 cubic metres a
23 second with the view, my understanding is, to be
24 protected from groundwater flooding. SR1 does not meet
25 the minimum Alberta standards for flood mitigation in

SCLG PANEL

Questioned by Mr. Heaney

1 our community on day one.

2 If it was known that these unequal outcomes were
3 created, why was this not specifically and explicitly
4 communicated to these communities and these residents
5 and these businesses?

6 Regarding climate change, very briefly. Of note,
7 AEP in Exhibit 265, page 5, this is AEP flood hazard
8 mapping report, shows that a 1 in 200 level of flood
9 can range between 727 metres cubed a second and 1,930
10 metres cubed per second. This is a 95 percent
11 confidence interval provided by AEP for a 1 in 200
12 level of flood.

13 Might I add that the rate used for SR1 of 1,240,
14 to my knowledge is lacking sensitivity analysis. How
15 is this information used on this range, this
16 probability of different outcomes and rates for 1 in
17 200 level of flood to compare SR1 to an in-stream dam
18 like McLean Creek?

19 Regarding SR1 as an unusual project. In
20 Exhibit 325, AT takes use of my terminology "radical
21 innovation" to describe SR1. I stand by that
22 assertion.

23 If the proponent had to search around for relevant
24 guidelines outside Canada for key decisions such as the
25 draining of the reservoir, for instance, this may

SCLG PANEL

Questioned by Mr. Heaney

1 indicate there is innovation. If there's no precedent
2 for determining whether it is better to release the
3 water early or late, I suggest my words are
4 appropriate.

5 I might say what is radical is the fact that the
6 proponent refers to the Ohio dry dams which are 100
7 years old, and as reviewed and discussed in
8 Exhibit 275, page 348, the Bow River Basin council
9 report, that these Ohio damages have next to nothing in
10 common with SR1.

11 This comparison must stop, it is unhelpful.

12 I refer you to the USBR Chapter 2 embankment
13 design statement referenced in Exhibit 199, page 2.

14 Radical -- I quote: (as read)

15 "Radical innovations are generally
16 avoided..."

17 This is regarding embankment dams: (as read)

18 "...and fundamental changes in design
19 concepts are developed and adopted
20 gradually through practical experience
21 and trial. Although the practice of
22 gradual change through verified
23 prototype designs may be criticized as
24 being overly conservative, no better
25 method has been conclusively

SCLG PANEL

Questioned by Mr. Heaney

1 demonstrated where consideration is
2 given to possible loss of life and
3 extensive property damage that could
4 result from dam failure, the major
5 economic investment, and the importance
6 of the stored water. Ample
7 justification is provided for
8 conservative procedures."

9 I ask this Panel to consider whether these conservative
10 procedures referenced by USBR are being applied here
11 with SR1, which is not a conventional dam and in and of
12 itself is unique.

13 Here is the thing, we have hundreds of in-stream
14 dams across Canada. We have many large in-stream dams
15 in the headwaters. We know what to expect with
16 in-stream dams. We deal with the debris, the sediment
17 sits underwater. And as I mentioned, Alberta
18 Environment and Parks is reviewing options for an
19 in-stream dam on the Bow.

20 If you could go to page 6. Thank you.

21 I realize you saw this image yesterday. The
22 proponent's main argument for Springbank seems to be
23 "something is better than nothing." Well, my
24 understanding is Glenmore Reservoir had its capacity
25 increased by 10 million or so cubic metres of water. Is

SCLG PANEL

Questioned by Mr. Heaney

1 that better than nothing? How about we stop there?

2 In Exhibit 325, page 23, the proponent responds to
3 my critique that SR1 creates inequities by saying, I
4 quote: (as read)

5 "AT states it's not possible for every
6 downstream property owner to be
7 protected to an equal extent. The fact
8 is that the extent of the flooding
9 downstream of SR1 will be substantially
10 reduced by the project."

11 This is a disingenuous and flippant response that is in
12 keeping with the dismissive attitude toward our concerns
13 from the start, and we deserve better.

14 According to Exhibit 101, which information is used
15 to create this chart here, MC1, as presented here on
16 this slide, is clearly superior and more equitable for
17 all of us including Calgary.

18 If you have a flood of 1,984 cubic metres coming
19 down the river, which project do you want? SR1 can skim
20 off between 480 and 600 cubic metres a second of a
21 raging flood. MC1 can take whatever that flood is,
22 absorb it, its volume increases, and then you can
23 release the water as needed through these spillways and
24 outlets to nearly equate the water that's coming in.
25 That gives you a lot more flexibility.

SCLG PANEL

Questioned by Mr. Heaney

1 So I want to talk briefly about why these
2 inequities are created by SR1.

3 First off, the only question I have to ask, and
4 it's rhetorical I suppose, where was this analysis years
5 ago?

6 Again, it has been crippling, this use of volumes
7 for SR1 and MC1, and you see the real truth of
8 effectiveness comes with rates, and an analysis of
9 rates. Why are we the first ones to show this? This
10 has jaw-dropping implications to Bragg Creek,
11 Redwood Meadows, Springbank, Discovery Ridge and
12 Elbow Valley.

13 While both projects have a volume limitation of 70
14 million I'm going to say net storage, SR1 has gross
15 storage, including 7 million cubic metres of storage for
16 sediment, another half a million for tributaries, for a
17 total of 77 million. Both projects are effectively the
18 same for volume.

19 SR1 has two restrictions. Number one, it has this
20 intake restriction or cap of 480 to 600 metres cubed a
21 second. It is this intake restriction that causes the
22 unequal outcomes downstream. If you take away this
23 restriction and allow unlimited water into SR1, it will
24 not create unequal outcomes.

25 This cap of between -- of 600 metres a second cubed

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Questioned by Mr. Heaney

1 reduces the ability of SR1 to adequately address
2 uncertainty regarding future flood sizes and shapes.
3 You will hear more about that in Topic 3.

4 If a larger flood peak comes down the river than
5 2013, say, 1500 or 1600 metres cubed per second, SR1 can
6 only take between 480 and 600 at a time. Have you
7 solved flood risk if you can't adjust to the volumes in
8 the river?

9 For SR1 to equal MC1 in this scenario 3, you would
10 have to double the intake. By doubling the intake, you
11 could take 1200 metres per second off the river, create
12 equitable outcomes downstream relative to MC1 of about
13 800 cubic metres a second.

14 The second restriction SR1 has, and I think is
15 worth noting here in my presentation today, SR1 has an
16 outlet restriction or cap of 27 metres cubed per second.
17 MC1 doesn't. An in-stream dam doesn't. It can pass
18 water over its spillways as needed. This limits the
19 ability of SR1 to quickly respond to risk through rapid
20 dewatering.

21 Given this structure of SR1 is less than 15 minutes
22 away from Calgary, this would seem to be an important
23 risk constraint. The structure itself fills up in 36
24 hours or so. What if something goes wrong? Where do
25 you empty the water?

SCLG PANEL

Questioned by Mr. Heaney

1 The proponent has responded to our risk experts by
2 saying they don't think we need a second outlet, but I
3 do think that's an important consideration.

4 The second effect of this cap is that that cap
5 constrains the flexibility if you have an unusual storm
6 situation that causes a back-to-back flood.

7 So, for instance, in MC1, if your volumes are full,
8 your dam is full, you have another rain or precipitation
9 event coming, you can dewater more quickly. You are not
10 limited by that 27 cubic metres of water. You can
11 dewater, somewhat reduce the volumes in the dam and
12 prepare for some intake of storm. With SR1, those
13 storms just will bypass the structure utterly and hit
14 the Glenmore Reservoir and then I don't know what we've
15 achieved.

16 And, of course, lastly in terms of SR1
17 restrictions, it has a location restriction which is
18 farther downstream between communities rather than at
19 the very upstream of the communities like MC1.

20 On the next page, please, slide 7.

21 Thank you. The decision to choose SR1 over MC1
22 when they determined volumes were equivalent, they moved
23 onto these qualitative types of analysis between the two
24 projects. This is where I would refer to Rocky View
25 County's critique which was rather good. Unfortunately,

SCLG PANEL

Questioned by Mr. Heaney

1 value-based judgments were used to arrive at these
2 qualitative assessments for MC1 and SR1.

3 I mentioned land use in particular in the middle of
4 that screen. There was no consideration in the original
5 decision for sedimentation, not meaningfully for SR1.
6 So what we know now is that sediment is a problem, and
7 it's something that will have to be managed over the
8 long run.

9 MC1 qualitative assessment seem to rely
10 disproportionately on judgments of impact on recreation
11 areas. At this point, based on Exhibit 101, this is
12 just silly.

13 The final impacted infrastructure listed in
14 Exhibit 101 for MC1 was a road which we acknowledge,
15 many kilometres of road, 19 campsites, a camp store, the
16 Ranger station and a wastewater lift station. If that
17 one doesn't sound too bad, we don't think it is.

18 Opus acknowledged in 2017 in Exhibit 101 a rivering
19 habitat would be changed to a lake habitat. The lake
20 would be 180 acres approximately of 15 metres in depth.

21 Regarding SR1. SR1 was really overlooked. The
22 impacts of the diversion and the consequences of that
23 sedimentation were really overlooked. I cannot stress
24 that enough. Yet now we know, after years of study,
25 much of which has come to light in the last 12 months,

SCLG PANEL

Questioned by Mr. Heaney

1 this sedimentation is a problem. It will be a perpetual
2 management problem.

3 Slide 9, please.

4 I'm not going to spend much time here on slide 9.
5 I think our attorney went through this yesterday to some
6 degree. However, I mentioned transparency earlier.

7 If this project is approved, I fully expect the
8 costs to disappear into various Alberta Transportation
9 accounts, budgets, and projects, and we will never know
10 the true cost of this project. So I ask the panel to,
11 where possible, get the needed transparency on the costs
12 of this for this publicly funded project.

13 The proponent replied in Exhibit 325, page 21, that
14 the cost increases are not significant. My original
15 assertion was this slide here, costs have increased over
16 two and a half times.

17 If I had a \$100 investment that appreciated to \$250
18 over seven years, I would consider that significant.

19 I ask you to consider the proponent's use of the
20 term "not significant" because this term is prevalent.
21 Air quality, not significant; wildlife, not significant;
22 water quality, not significant. If the term -- the use
23 of the term "not significant," is it applied with the
24 same liberal interpretation on all elements of this
25 project?

SCLG PANEL

Questioned by Mr. Heaney

1 Regarding facilitation payments. It is clear that
2 facilitation payments were used to advance the project
3 and I ask the Panel to, where possible, include them in
4 the project costs. There are several unknown costs.

5 I don't have the inside information on the
6 negotiations with Camp Kiwanis. All I know is that to
7 move that camp if you need to move it will be in the
8 tens of millions of dollars, or are they staying? This
9 is a pretty pivotal piece of information.

10 I don't know what additional land compensation
11 might be here and what's released. The pipeline
12 information is not coming to me.

13 Outstanding design costs. I'm still unclear after
14 yesterday what's happening with the emergency spillway,
15 which will run somehow overland to the Elbow River. I'm
16 not sure how you can have that spillway run overland to
17 the river at 300 and some odd cubic metres a second.

18 Next slide, please. Page 10.

19 This is the proponent's information. I've
20 submitted it before. I'm not going to speak in too much
21 detail to it.

22 What I want you to know is this is all Alberta
23 Transportation's numbers. I haven't made any
24 adjustments. MC1 and SR1 were discussed yesterday as
25 having both avoided damages of 27.7 million in the city.

SCLG PANEL

Questioned by Mr. Heaney

1 I'm sure it is clear after yesterday's discussion that
2 the avoided damages for MC1 will be much greater because
3 it protects more communities more effectively and more
4 effectively than berms.

5 What is missing, in my view, is costs for repairs
6 to flood mitigation projects upstream when a large flood
7 comes down the river. I'm pretty sure the rest of our
8 panel will speak to the impact -- or some of our panel
9 will speak to the impact on Redwood Meadows and
10 Bragg Creek from the 2013 floods.

11 As Rocky View County taxpayers, we find it rather
12 surprising we would be on the hook for repairs to berms
13 required for SR1 when the alternative wouldn't have
14 required those berms.

15 So we know two facts: The project is no longer
16 cheaper than MC1, and the economic cost benefit is no
17 longer superior to MC1.

18 The proponent says that, based on estimated costs
19 of the 2013 flood, SR1 will more than pay for itself in
20 a single design flood; so would MC1. However, MC1
21 offers a better chance for payback as, Number 1, it does
22 not have that design intake restriction like SR1 does;
23 and, 2, its location which protects more communities.

24 In a late attempt to manage costs, the proponent
25 appears to be pushing back on costs, including,

SCLG PANEL

Questioned by Mr. Heaney

1 apparently, our community detour roads, as well as
2 recommendations by our experts NCEA; a second outlet by
3 our experts to rapidly de-water the reservoir in the
4 event the main outlet is blocked; and by our experts,
5 NCEA, erosion protection on the water side of the
6 embankment, to name two. These are costly upgrades.

7 Perhaps if the proponent had not been so intent on
8 compensating and removing opposition, they would have
9 had budget to implement additional changes for dam
10 safety.

11 If you choose to approve SR1, despite all the
12 certain and negative outcomes that are evident, please
13 get it right at every foreseeable safety mechanism,
14 redundancy, and fail safe possible, regardless of cost.
15 That will ensure it cannot fail or malfunction and cause
16 catastrophic damage to hundreds of thousands of people
17 and even potentially loss of life. The worst possible
18 outcome for my community and the City of Calgary is the
19 failure of an SR1 embankment.

20 Page 12, please.

21 Thank you. I can say with much confidence that
22 impacts on our greater Springbank area were not
23 considered before the project was chosen and not until
24 late 2019/20 did Alberta Transportation express any
25 interest in talking with us as a community. I think

SCLG PANEL

Questioned by Mr. Heaney

1 individual landowners had been contacted before that.

2 This is a massive project. I feel compelled to
3 impress upon you the size of this footprint. And, for
4 reference, I just have some comparables. Fish Creek
5 Park is 3300 acres or so. SR1, a direct footprint,
6 appears to be 3600. Nose Hill Park is 2790 in Calgary.
7 It's a huge project.

8 The structure is in Springbank and on the pathway
9 to Bragg Creek and Redwood Meadows. Our communities are
10 connected with Bragg Creek and Redwood children
11 attending Springbank schools. Everyday they are bussed
12 along Springbank Road, which you see here in green, to
13 attend our schools. And this is a popular eco tourism
14 corridor for cyclists who ride their bikes from
15 Springbank all the way through to Bragg Creek.

16 The project is east of central Springbank and
17 northeast of Elbow Valley with a combined population of
18 9,500 or so residents. All of these areas are growing
19 and there are new developments planned just east of SR1,
20 just by the eastern border you see there. And there's a
21 new high school planned for Springbank.

22 I would like to point out winds blow from the west,
23 and Springbank is windier than your average Alberta
24 location, as is explained by our air quality expert
25 Brian Zelt.

SCLG PANEL

Questioned by Mr. Heaney

1 People in Springbank use wells for water or draw
2 their water from Elbow River via water co-ops and
3 Calalta.

4 Let me say, we are very sensitive to possible
5 impacts in our groundwater, well water, and Elbow River
6 water quality, as this is the source of our drinking
7 water. Page 13, please.

8 Thank you. SR1 was chosen quickly through a high
9 level screening process in 2014 based on an AMEC report
10 which recommended that both SR1 and MC1 proceed to
11 further design. Very little thought or due diligence
12 was given to community impacts.

13 The proponent now acknowledges that there will be a
14 litany of negative outcomes. In fact, by my assessment,
15 every possible category of study highlights negative
16 outcomes: Air, water, wildlife, fish, biodiversity.

17 Now the proponent may not consider that each one is
18 significant and adverse, but on the whole they are
19 negative. On the whole they are negative.

20 These societal impacts of SR1 should be compared to
21 the in-stream alternative at McLean Creek. For example,
22 if there had been a meaningful discussion of how other
23 in-stream dams west of Calgary handle this sediment and
24 impact total suspended solid and nutrient concentrations
25 in the water and how this sediment is managed, we'd be

SCLG PANEL

Questioned by Mr. Heaney

1 better equipped to understand SR1 versus MC1.

2 SR1 leaves the sediment exposed to air, while
3 in-stream dams will contain most of the sediment
4 underwater. Surely this is an important point that has
5 a range of environmental implications, yet there was
6 never, not once been a full discussion of the sediment
7 consequences of SR1 versus MC1 aside from the Deltares
8 report in 2013 -- 14, Exhibit 13, that states: (as read)

9 "SR1 was less sensitive to sediment."

10 What does this even mean? How is this conclusion
11 arrived at and by whom? Given that many objections of
12 SR1 centre on the sediment deposited and left to dry
13 following a flood, we deserve a fair discussion of this
14 topic and its impacts on fish, air quality,
15 biodiversity, land use, water quality, carbon storage
16 relative to a comparable in-stream dam.

17 The tricky thing about SR1 is that there is no
18 precedent to refer to that illustrates what this
19 post-flood environment will look like. I will leave it
20 to this Panel to determine why this is the case.

21 It seems possibly that dams are used for
22 irrigation, water storage, and recreation, rather than
23 being kept in a dry state for flood mitigation.

24 The reality of the matter is that AT has never
25 provided a long-term view of the reservoir after three

SCLG PANEL

Questioned by Mr. Heaney

1 floods, four, five, ten. The proponent allows for 7.7
2 million tons of sediment in the reservoir over time.
3 What on earth does this look like? Does this become a
4 flattened wasteland necessarily for fish rescue?

5 What we all agree on is that it will be used, and
6 once it is used, you will have to cope with that
7 sediment. It is safe to say the long-term outcomes that
8 result from this sedimentation are unclear. If we look
9 at an example where millions of tons of sediment will
10 deposit, that would be great, but they don't exist.

11 Regarding these uncertain outcomes, the proponent
12 proposes to monitor the effects. This is not the same
13 as mitigate.

14 Regarding the sediment, the prediction of a design
15 flood will deposit 2.3 million tons of silt; Exhibit 93,
16 IR 300. This wasn't relevant during the decision
17 process. Is that an oops? Well, they'll monitor it.
18 Smothering of plants, including native grasses; monitor
19 it?

20 One way or another, for a time, post-flood or
21 perhaps forever, this will become a dry lake bed. If
22 we're looking for a comparable there, perhaps it's
23 better for us to look to the dry lake beds in California
24 where the dust from the sediment becomes airborne and
25 creates dust storms, a possibility identified by our air

SCLG PANEL

Questioned by Mr. Heaney

1 quality expert Brian Zelt in Exhibit 269.

2 AT's own quality experts identify unacceptable
3 short-term risks to human health in some scenarios.
4 Again, I ask for how much time is it acceptable for
5 children and members of our community with lung disease,
6 who are elderly, asthma, to be exposed to air quality
7 that poses an unacceptable short-term risk to human
8 health?

9 Now our expert can argue with their expert whether
10 you should use air -- wind conditions from the
11 Springbank airport or whether you should use silt from
12 the Glenmore Reservoir because its more fine. Those are
13 details. The fact is they both agree. Air quality is a
14 problem.

15 It doesn't matter if it's used infrequently by
16 which they have arrived at their conclusion, not
17 significant for our impacts. All that matters is once
18 the sediment arrives here, it's going to be a challenge.
19 As of today, to my knowledge, the proponent has no costs
20 for watering the reservoir. Costs for water during
21 construction are 2.5 million from Exhibit 159,
22 Appendix G.2. Our experts will say watering of seeded
23 land post-flood will be needed twice a day.

24 Is it possible that watering the reservoir could
25 require water from the Elbow River? You are diverting

SCLG PANEL

Questioned by Mr. Heaney

1 water for flood that creates a sediment problem that
2 will require water to manage. Is this being thought
3 through.

4 Regarding wildlife. I readily admit dams change
5 the natural environment; however, after they're built,
6 the ecosystem adapts. MC1, as I mentioned, would
7 convert river ecosystem to lake system upstream of MC1.
8 This conversion from river to lake is one time.
9 Construction is painful no matter where, but I'm asking
10 you to look past that.

11 SR1 creates an ecosystem that will be in a
12 perpetual state of flux: Dry, wet, post-flood,
13 reconstruct, regrow, repeat.

14 When the reservoir is in use, June timeline, in the
15 spring, there will be death of birds and their nests.
16 Amphibians, pollinating plants, pollinating insects, all
17 at a time when this area is naturally teeming with
18 young, dens, nests, burrows inundated. How can they not
19 be?

20 Wildlife rescue operations are impractical and
21 optimistic. How realistic is it to rescue wildlife on
22 short notice on 2,000 acres of reservoir in the driving
23 rain over terrain that is a mix of riparian, deep
24 grasses, shrub brush, and more. This is not the time to
25 idealize these rescue activities.

SCLG PANEL

Questioned by Mr. Heaney

1 We must be pragmatic that they will likely be
2 ineffective, if they can occur at all for the safety of
3 rescue personnel in the limited window before a flood.

4 The proponent think they can forecast floods with
5 some accuracy; 2013 shows this is unlikely. Fish,
6 again, rescue operations will commence post-flood. We
7 need to be realistic on this too. This could be up to
8 nearly 2,000 acres inundated sediment accumulation to my
9 last knowledge on the matter up to 12 feet uneven
10 drainage. How do you even get on the land? What are
11 the practicalities of conducting fish rescue in these
12 conditions?

13 Community benefit. There isn't any. Not a park
14 bench, not a pathway, not a river park for the project
15 that's on the river. All the burdens of this project
16 fall squarely on the Springbank area community.

17 The proponent has been laser focused on receiving
18 First Nations withdrawals of oppositions. It has not
19 been particularly focused on making this project
20 palatable for our community if it's approved.

21 We raise for the consideration of the Panel that
22 should this project be approved, despite its clearly
23 inferior flood mitigation outcomes and despite its
24 negative socioeconomic outcomes, that there must be a
25 condition to find community benefit.

SCLG PANEL

Questioned by Mr. Heaney

1 We recognized Rocky View County accepted \$10
2 million for lost tax revenue. If this land were to be
3 developed, Rocky View County would receive 10 percent of
4 the land of municipal reserve to be used for parks.
5 That's between 360 and 690 acres using the project area
6 to the full impacted acres; I don't know where it's
7 landed.

8 Alternatively, the value for Rocky View County when
9 a developer provides the development is cash in lieu,
10 the value of that 10 percent. Has the proponent
11 contemplated community benefit anywhere? I see a
12 reference in their land use to potential public access,
13 but that's it.

14 I think I can safely say now, now they have decided
15 not to upgrade our detour routes which will be used
16 during the construction, but perhaps we aren't high on
17 their list.

18 I ask the Panel to consider that none of the
19 outcomes of this project are positive for the greater
20 west Rocky View and Redwood Meadows area. In fact,
21 unfortunately, they are negative. Our burden, Calgary's
22 benefit.

23 MC1 would have benefited all without these horrible
24 and generational outcomes. In new rules, I'm not sure
25 of the exhibit number, it's been posted, the Alberta

SCLG PANEL

Questioned by Mr. Heaney

1 government requires municipalities effective April 1st
2 to pay 10 percent of damages for natural disasters in
3 their municipality, and payouts to homeowners affected
4 by flood are capped at \$500,000 one time. Given SR1's
5 inequities in flood mitigation, is this just or
6 equitable?

7 It is fully likely that our community will have to
8 pay disproportionately for our unequal and insufficient
9 level of flood protection relative to what SR1 provides
10 for people downstream of the Glenmore.

11 Page 15, please.

12 I like to show this because it shows the
13 illustration there of the tube, shows how the proponent
14 has explained the project. SR1 storage in this case,
15 it's 77.2 million, Glenmore storage of 10, 52 million
16 will pass safely without damage.

17 When people look at this and they presented this to
18 Springbank residents and Bragg Creek residents last fall
19 pass safely without damage, it's easy to interpret that
20 SR1 protects us. And it doesn't.

21 SR1 and MC1 have been sold as equal for flood
22 mitigation; clearly this volume-based assessment is
23 problematic. When was it determined that rates created
24 these unequal outcomes? Just yesterday, Mr. Wood stated
25 that rates are the cause of flooding. On page 156 of

SCLG PANEL

Questioned by Mr. Heaney

1 Exhibit 350, the transcript from yesterday, Mr. Wood
2 stated: (as read)

3 "It is the peak, you know, that is the
4 most important when it comes to flood
5 damages, not necessarily the volume."

6 Why was SR1 chosen over MC1 based on volumes? In my
7 view, Alberta Transportation is not being truthful and
8 providing full disclosure on the lack of flood
9 mitigation provided by SR1.

10 In 2013 our residents in Elbow Valley, Bragg Creek,
11 Redwood Meadows could not access their homes due to road
12 inundation. Where is this considered by their
13 proponent? SR1 is setting us up to repeat history in
14 these western communities.

15 My last Slide 16, please.

16 Did Alberta Transportation communicate clearly with
17 Rocky View County that its residents would still flood
18 with SR1? Where was it communicated that MC1 at any
19 point had superior flood mitigation outcomes for
20 communities upstream of SR1 and Glenmore Reservoir? Did
21 Tsuut'ina Nation know that MC1 was so superior to berms
22 for Redwood Meadows before they withdrew opposition?

23 In AT's response to Ian Dowsett, Exhibit 325, they
24 replied that our analysis on these unequal outcomes is
25 correct and that our residents receive inferior flood

SCLG PANEL

Questioned by Mr. Heaney

1 mitigation than current standards. But implied is
2 better than nothing. Is that what we're going for here?
3 "Better than nothing"? Is the best we can do on a
4 project that is costing over half a billion dollars
5 "better than nothing"?

6 I'm concerned that there has not been full, true,
7 plain disclosure. Was the proponent aware of these
8 unequal outcomes and did they appropriately communicate
9 this to impacted communities and residents?

10 If the proponent was not aware of these outcomes,
11 how are we seven years in and they're not aware of these
12 outcomes?

13 Briefly on history before I wrap up.

14 The history I've provided in Exhibit 254 indicates
15 the project became the project of choice after very
16 little study based on the 2014 AMEC report, which is in
17 our additional submissions.

18 Mr. Speller stated today upon review of
19 Exhibit 252, the AEP decision, the primary decision was
20 based on "Will it work?" I ask "For whom?"

21 The June 2014 AMEC report recommended both MC1 and
22 SR1 proceed for further study. Yet, it was SR1 that was
23 announced by Premier Prentice I believe in September; I
24 could be mistaken. It's in my other document that is in
25 evidence for funding and detail design in the fall of

SCLG PANEL

Questioned by Mr. Heaney

1 2014. Why? It was SR1 that was submitted to regulators
2 in early 2015 long before the Exhibit 252 AEP decision
3 report in the fall of 2015. Why?

4 AT likes to say the project was chosen by three
5 successive governments; rather the project was chosen
6 twice by two governments over a period of approximately
7 one year, and both decisions were based on the same
8 limited analysis and generous supply of assumptions. I
9 contend now that through a robust IR process,
10 feasibility analysis is underway. I would also conclude
11 that the feasibility analysis on SR1 with the
12 information we use today results in it not being
13 feasible.

14 Next page, please. I think I've just covered this.
15 Can you go one more page, please, to page 18. Oh 19, I
16 apologize. I'm new to this.

17 Conclusions. Alberta Transportation's own data
18 demonstrates MC1 is a more effective and equitable
19 outcome. The magnitude and changes in cost, scope of
20 the project, the SR1 project, and the negative
21 environmental and social outcomes have undermined the
22 original decision. Alberta Transportation's own air
23 quality expert states SR1 will create unacceptable
24 short-term risk to human health. I refer to this as
25 "the blast zone" as our schools are just east of this

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Questioned by Mr. Heaney

1 project.

2 As I mentioned, the level of flood protection
3 between the SR1 and Glenmore Reservoir is below stated
4 guidelines. The questions I ask this Panel today, how
5 is the SR1 project worthy of approval? How did it get
6 this far?

7 Is better than nothing an appropriate test of
8 public interest. Thank you.

9 Q. Thank you, Ms. Karen. Just a quick one on the open
10 house that you attended. You said you attended a
11 number of open houses. And can you give us an overview
12 of how those open houses went.

13 A. MS. HUNTER: Sure. I've attended two open
14 houses, and then both information sessions last fall
15 that were hosted. The open houses were -- they had a
16 small window of time, I believe something like 6 to 8
17 p.m., and you would go and walk in the room and they
18 had these boards up that you would walk around and look
19 at images of SR1 and then they recommended you write
20 down your comments about the project.

21 The one that I attended in Springbank was packed.
22 The room was packed because people were curious about
23 this. There was a lot of concern about debris -- I
24 believe this was 2016 or 2017 -- and the proponent
25 subsequently made a change I guess based on that

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Questioned by Mr. Heaney

1 feedback, but there was not a lot of opportunity for
2 back and forth, and there was a few staff there from
3 AT, I believe, and potentially another consultant. But
4 you just basically went in and looked at boards.

5 Q. Thank you. Okay, I'll go next to Mr. Brian Copithorne.

6 THE CHAIR: I wonder, Ms. Okoye, if we may
7 want to just take a quick sort of a natural break. Why
8 don't we take a ten-minute break and come back. And I
9 believe -- we had about -- I think you had allocated
10 around 2 and a half hours in this area. So it will be
11 likely close to finish up today, perhaps not quite, so
12 we'll likely need to -- or may need to go tomorrow
13 morning, but just thought I would alert you to that.
14 And so we'll be back at 3:15 and I'll let you carry on.
15 And who is up next?

16 MS. OKOYE: Mr. Brian Copithorne.

17 THE CHAIR: Okay, that's great. Thank you.

18 So let's all get back at 3:15 then. Thank you.

19 MS. OKOYE: Thank you.

20 (ADJOURNMENT)

21 THE CHAIR: Welcome back, everyone.

22 Ms. Okoye, your next witness, please,

23 Mr. Copithorne.

24 Q. MS. OKOYE: Mr. Brian Copithorne, there has
25 been evidence prepared and filed on your behalf in this

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1 matter being the SCLG Group's submissions filed as
2 Exhibit 247 in your submissions, Exhibit 250 at PDF 89
3 to 98. Are these documents accurate to the best of
4 your knowledge and belief?

5 **A. MR. B. COPITHORNE: Yes, they are.**

6 **Q.** You adopt them as part of your direct evidence in this
7 matter?

8 **A. MR. B. COPITHORNE: Yes.**

9 **Q.** Could you please provide the Board an overview of your
10 concerns for this project.

11 **A. MR. B. COPITHORNE: Yes. Today I'd like to speak**
12 **about three concerns that I have. Of course, I have**
13 **many concerns being a landowner and being involved in**
14 **this project, but today I've decided that I would like**
15 **to talk about three major concerns that I have around**
16 **issues of health, and that's basically groundwater**
17 **contamination, the blowing dust, which we've had lots**
18 **of evidence on. And then the third one that I wanted**
19 **to talk about was an increase in the breeding habitat**
20 **for mosquitoes that carry viruses that are harmful to**
21 **human health.**

22 **Q.** Please proceed.

23 **A. MR. B. COPITHORNE: Okay. The groundwater**
24 **contamination issue, where I live there on the edge of**
25 **the reservoir on section 25, this is an area that has**

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Questioned by Mr. Heaney

1 many freshwater springs that flow year round. They
2 flow at different rates and some of them dry up for
3 periods of time and then some of them come back again
4 and flow again even in a different spot often.

5 The three main springs that I have on my property
6 here, they flow continuously and they never stop,
7 summer or winter. I've lived here for nearly 70 years
8 and I've never ever known the springs to stop flowing.

9 So it's a major concern of mine when these springs
10 are flooded over. I see that as a place where
11 the -- where the contaminated floodwaters will flow
12 backwards into the springs. They'll contaminate the
13 springs, in my opinion.

14 Where that groundwater will end up, I don't know.
15 It will come up at wells somewhere likely, not only my
16 wells but those wells of people in Springbank. And I
17 know the proponent says that the -- that the effect of
18 this is short term and it will clear up right after the
19 reservoir is emptied, but I'm not so sure myself. When
20 that contamination gets into the groundwater, I'm not
21 sure what the outcome will be.

22 So the water table is very high in this area and
23 there's lots of opportunity for the floodwater to
24 contaminate the groundwater.

25 So that's my primary concern.

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1 Blowing dust. The second thing is the blowing
2 dust. We've talked about that a lot.

3 In Exhibit 2 in Stantec's original project
4 description, in Section 535, they -- they talk about
5 how the dust from the sediment that's left behind in
6 the reservoir can be picked up by the prevailing wind.
7 And they even mention the fact that there's a
8 possibility that there will be raw sewage in that as
9 well as other contaminants. So having lived here, I've
10 seen what blowing dust can do.

11 Occasionally someone will overcultivate their
12 fields or get the soil worked down until it's too fine,
13 and when that wind kicks up, that dust blows for miles.
14 You can see it just blackens the sky.

15 So I can foresee that happening with this
16 Springbank reservoir. That dry dust is as fine as
17 flour, and there's no doubt that it will blow and it
18 will be bad.

19 The third thing -- the third health concern that
20 I'm very concerned about is increased breeding habitat
21 for mosquitoes. There was an exhibit, Exhibit 250 on
22 page 105. It was submitted by the late Dr. Church, and
23 Dr. Bob Church for anyone that is not familiar with who
24 he is, he is a well-known and respected scientist that
25 lived in the Calgary area. He's known -- well-known in

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1 the agricultural sector for his reproductive technology
2 that he developed in cattle.

3 And in his letter, Dr. Church talks about the
4 increased breeding habitat for striped mosquitoes that
5 are likely to result from stagnant water that's left
6 behind after the reservoir is drained. And he warns
7 that these mosquitoes will cause infection that's not
8 only harmful to cattle, but the Zika virus is known to
9 be harmful to humans as well.

10 And an interesting point is that nearly two years
11 after Dr. Church wrote this letter, there was an
12 article in the Calgary Herald and it was titled "15
13 Dead Rescue Birds Prompts Investigation into Source of
14 West Nile Virus in Southern Alberta."

15 The story was about these birds, birds of prey
16 mainly, that had died during the summer of 2018, and it
17 was found that they had died of the West Nile virus.
18 And West Nile virus is a virus that is also carried by
19 mosquitoes.

20 So this story, nearly two years after Dr. Church
21 wrote his letter, it very much verifies his concerns
22 and the risk to human health that's posed by the SR1
23 project.

24 Those are the three main health issues that I'm
25 concerned about. And I would request that the Panel

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1 take very serious consideration of these types of
2 issues.

3 And contrary to what the proponent may claim,
4 there are serious health concerns, and the consequences
5 of this project are neither temporary nor minor. And,
6 again, I just ask the Board to take that into
7 consideration. And that's pretty much all I have to
8 say for now. So thank you very much.

9 Q. Thank you, Mr. Copithorne. Just a few more questions.
10 How long have you lived in the area?

11 A. MR. B. COPITHORNE: Do you want to know how long I've
12 lived personally here or my family or both?

13 Q. Both.

14 A. MR. B. COPITHORNE: Both. Okay. My great grandfather
15 came to this area in the mid 1880s. So it won't be
16 long before it's 140 years. Myself, I've lived on the
17 property for 70 years and we've been ranchers right
18 from the very beginning of that. That's what we do.
19 We raise cattle and we ranch.

20 Q. I'd just like you to identify the location of your
21 lands. I'm not sure if, document manager, you're able
22 to pull up Exhibit 249. 249, please.

23 Mr. Copithorne, is your land location accurate on
24 that map?

25 A. MR. B. COPITHORNE: Yes, it is.

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Questioned by Mr. Heaney

1 Q. So your valleyed within the off-stream storage
2 reservoir?

3 A. MR. B. COPITHORNE: Yes. I also own a piece of
4 property that is near the intake. It's down at the
5 bottom of the map.

6 Q. All right. So move on to the next person.

7 THE CHAIR: Mr. Copithorne, thank you very
8 much.

9 A. MR. B. COPITHORNE: Thank you, Mr. Chairman, for the
10 opportunity to speak today, and thank you to you and
11 the Board. Thank you very much.

12 Q. MS. OKOYE: Thank you, Mr. Copithorne. We'll
13 go on to Mary Robinson. Are you there?

14 Ms. Robinson, there has been evidence prepared and
15 filed on your behalf in this proceeding; that being the
16 SCLG Group submissions filed as Exhibit 247 in your
17 submissions, Exhibit 250 at PDF pages 1 to 10, and you
18 also have an opening presentation. Are these documents
19 accurate to the best of your knowledge and belief?

20 A. MS. ROBINSON: Yes.

21 Q. Do you adopt them as part of your direct evidence in
22 this proceeding?

23 A. MS. ROBINSON: Yes.

24 Q. So is your land southwest of quarter of 3-24-4, west of
25 the fifth?

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Questioned by Mr. Heaney

1 **A. MS. ROBINSON: Yes.**

2 **Q. Do you own the land with any other member of your**
3 **family?**

4 **A. MS. ROBINSON: No.**

5 **Q. Do you have other lands with other members of your**
6 **family that are affected by this project?**

7 **A. MS. ROBINSON: Yes. My sister Janet Hawes, she**
8 **owns the southeast quarter with her daughter**
9 **Rhonda Gervais, and Janet and I own the north half of**
10 **section 3-50-50 (phonetic).**

11 **Q. Are you speaking for yourself, your sister, and your**
12 **niece in this proceeding?**

13 **A. MS. ROBINSON: Yes. They have given me**
14 **permission to speak on their behalf as they're**
15 **concerned landowners and opposed to the project as**
16 **well.**

17 **Q. I understand that there is a correction you want to**
18 **make to Exhibit 249.**

19 Document manager, if you could pull up
20 Exhibit 249, please. That was just the map that you'd
21 just shown previously.

22 So I understand that the location of your -- your
23 sister's lands are not accurate, towards the bottom, if
24 you can go to the bottom of the screen, please. Is
25 that correct, Ms. Robinson?

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Questioned by Mr. Heaney

1 A. MS. ROBINSON: Yes. My property is correct, but
2 in that where it says Range Road 42 there at the
3 bottom, where it says "Wills" there, that should be
4 Janet Hawes instead. So Janet and Rhonda own mutually
5 Section 3 Block 2. It's 54.81 acres, and Section 3
6 Block 3 is 69.46 acres. Janet owns 76.39; Rhonda
7 23.61, and they only do that because Rocky View, you
8 can only have one parcel out of a quarter. So you have
9 to do a percentage like that.

10 Q. Okay. Thank you. Can you provide the Panel with an
11 overview of your concerns for this project,
12 Ms. Robinson?

13 A. MS. ROBINSON: Okay. Thank you very much,
14 Mr. Chairman and the Board, for allowing us as a
15 landowner to talk about our concerns.

16 I was asked to talk as just an example of a
17 business person and a landowner within the project
18 spectrum.

19 Our original home ranch was called the Elbow Park
20 Ranch. It is under now what is the Glenmore dam, so
21 that's a little redundant.

22 But our family originally bought that in 1888, and
23 they moved to this present location in 1907. I was
24 raised in one-room log cabin here until 1963 when our
25 family together, we built a log house from logs that we

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Questioned by Mr. Heaney

1 cut on the ranch.

2 I went to Springbank School for 12 years.

3 Just a little background, I'm a registered nurse;
4 I was also a guide outfitter in British Columbia and
5 the Yukon for 25 years. So I have a great deal of
6 experience with wildlife management, land management,
7 conservation, and I've had numerous businesses.

8 All those generations have worked on this property
9 and ranched and farmed, and we most certainly want to
10 carry on with that family tradition.

11 There's been a great deal of poverty and hard
12 times, and we've had to endure to hang onto these
13 properties as landowners. And I think that really is
14 something very significant.

15 I'm also director of the Canadian Quarter Horse
16 Association and the director of the American Quarter
17 Horse Association. The American Quarter Horse
18 Association is the largest equine organization in the
19 world, so I'm very involved in the horse world and in
20 numerous cattlemen organizations as well.

21 As landowners, we really do believe in flood
22 mitigation, which is not what sort of the aura of this
23 presentation is. We believe in it, but we just believe
24 that it should be for all people equally, and it should
25 help all communities and not just Calgary.

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Questioned by Mr. Heaney

1 I lease my land from my sister for agricultural
2 purposes, but she is equally concerned about this
3 proposed dam.

4 During the flood, we had about half a million
5 dollars' worth of damage to the family's property. We
6 lost about 40 acres down the river, and a lot of our
7 assets were severely damaged.

8 I'm going to talk now basically about my immediate
9 family and our operation as far as the ranch and the
10 equestrian centre. And that is my daughter and my son
11 and his wife Courtenay and my grandson Luke who is
12 sixth generation. So there's Jesse, Logan, and his
13 family all involved, all wanting to carry on ranching.

14 As far as what we do here, we have a purebred and
15 a commercial cattle operation. We farm this land for
16 greenfeed and hay. SR1 project will totally obliterate
17 my cattle operation. It's right down by the traffic
18 circle there; it will take everything; corrals,
19 graineries, loading chutes, all my bull corrals,
20 heifer, it will be obliterated.

21 The equestrian centre is to the south of the
22 property. Here I board horses, train horses, give
23 lessons. I have educational clinics that are open to
24 the public. Moose Hill is kind of an iconic community
25 for these activities. I have educational clinics once

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Questioned by Mr. Heaney

1 per month. I have equine-assisted learning programs,
2 handicapped children programs, PTSD programs for
3 Calgary policewomen. I have a breast cancer survival
4 program where these people just come and spend time
5 with horses in order to increase their mental health.
6 The facility is truly an icon for education and
7 recreation.

8 So as far as landowners, there's a lot of
9 diversity when it comes to what we do with our land,
10 and I think that's very, very relevant when it comes to
11 the landowners' businesses.

12 Other things that we do here, I have lots of event
13 venues. We have all sorts of wagon rides, wedding
14 venues, sleigh rides, trap-shooting competitions,
15 et cetera.

16 As far as recreation, we ride here a lot. Horses
17 are our love. We raise purebred quarter horses here.
18 We hunt, we fish, and we trap on this land. Mostly we
19 love the pristine, undisturbed nature of the property.
20 That's why you have rural property like this, and that
21 will be all taken from us.

22 I've been involved with the question of the
23 Springbank Dam validity since its inception almost
24 eight years, and I guess as a committee member, like a
25 lot of us, it's taken a great deal of our personal time

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1 and our business time for the last eight years. It's
2 quite difficult to have that time taken away from you
3 when you're trying to defend what is rightfully yours
4 as a landowner.

5 We first heard about this project on the
6 television one night. That's where it all began, and I
7 guess the government had been working on the project
8 for about six months before that.

9 An expropriation person, expert spoke at that
10 first meeting, so needless to say, that sort of
11 behaviour did not sort of be a good beginning of a
12 positive atmosphere for future negotiations or
13 consultation.

14 There's been a lot of open houses, agreed, but
15 90 percent of those have been closed microphone; we
16 just looked at easels and found out what they were
17 going to do with our land.

18 We had one meeting of exclusive landowners with
19 Mr. McIver in Bragg Creek. That was initiated by the
20 landowners and Miranda Rosen, and most of the others
21 have been open to the public. He said he would have
22 follow-up meetings with us which that did not
23 transpire.

24 THE CHAIR: Ms. Robinson, just a real quick
25 note. The odd time you're freezing on my feed, and I

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1 think it's the same for a few other folks. I don't
2 think I'm missing many words. I just wanted to check
3 with the court reporter, though, because I've been able
4 to follow. I just want to make sure she's getting
5 this. So just one second. Ms. Vespa.

6 THE COURT REPORTER: Yes, I've been able to get it, but
7 I am having the same issue. Your Internet is freezing,
8 you may have a low bandwidth.

9 A. MS. ROBINSON: I'm afraid our Internet here is
10 not best so...

11 THE CHAIR: But it is working, and it's just
12 the odd freeze. So if the court reporter is getting
13 the audio and the words, that's perfect.

14 So please continue, thank you very much. Sorry
15 for the interruption.

16 A. MS. ROBINSON: Okay. So basically our biggest
17 concern is that this plan is supposed to be good for
18 both urban and rural people, and we really do feel that
19 that's -- should not -- has not been the case to this
20 point.

21 We feel that it is a community issue, I want to
22 emphasize that, not just Elbow Park and Roxboro and
23 Calgary and the CRCAG members. We really believe it
24 should be a decision for all communities. One should
25 not trump the other at the cost of other people's

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1 lives.

2 Again, MC1 helps Calgary just as much SR1 in a
3 superior way because it also, as we've discussed does
4 drought protection, fire protection, and great
5 recreational opportunities.

6 The biggest thing about landowners I guess is that
7 all these other groups are not losing their heritages;
8 no. The CRCAG people aren't losing their -- going to
9 have their homes taken away from them; no.

10 Are they losing they are professions. No. And
11 are they losing their livelihoods; no. Because our
12 land is actually going to be taken from us, and that is
13 most certainly the difference.

14 This decision is supposed to be based on public
15 interest, not just on a select few, and I think that
16 opposition has been very evident in the open houses.

17 As far as the project need, I would like to just
18 say that I think one thing that really concerns me is
19 the inequity of research that's been done on each
20 project. About 25 percent we've estimated of research
21 has been done on MC1 compared to SR1, and the proponent
22 admitted that a lot of MC1 research was desktop only.

23 I think anybody that does research no matter what
24 you're doing research on, you have to have a very fair,
25 unbiased study, and you have to study them identically.

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Questioned by Mr. Heaney

1 You need to start at the origin problem which is here,
2 the mountains, and you have to solve the problems
3 methodically taking every bit in between into account.
4 That's not done with SR1.

5 Our group requested years ago for detailed
6 financials from the proponent. We spent thousands of
7 dollars trying to find out a lot of financials, and we
8 were refused due to FOIP, the freedom of information.

9 It really makes us suspect where this was a
10 pre-determined decision and not one that's based on
11 science, environment, and human social concerns.

12 Just an example, I'm a stakeholder in -- very
13 close to the MC project. I have my grazing permit up
14 there; we've had it in the family for about 70 years.
15 And we were not discussed at all when it came to -- we
16 were not contacted, nothing about MC1 up there, and
17 we're a major paying stakeholder. It's, as far as I'm
18 concerned, a perfect place for a wet dam right at the
19 Allen Bill Pond site.

20 I think it also rather concerns us that the SR1
21 opposition groups bring to the forefront flaws that are
22 in the SR1 project that Stantec and the proponent have
23 made, and it seems that they're allowed to sort of
24 amend and change and make it look good to everybody so
25 that it will be approved. And I really don't think

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1 that should be the pattern. I think there should be
2 one presentation, should be approved or dismissed and
3 not given dozens of chances to make it right or upgrade
4 it or do anything and often without a difference of
5 cost benefit, I might add.

6 And I just question, did the MC1 project get that
7 luxury of, you know, changing their merits and benefits
8 to make their project be passed; no.

9 I think Alberta Transportation greatly overuses
10 the word "monitor." It's in a great number of their
11 submissions, and it is used endlessly. And I just
12 think that that is not a word that means absolutely
13 anything. They actually need a plan for any of the
14 problems that might be with the SR1 projects.

15 As landowners, we've been really treated quite
16 disrespectfully in a lot of ways. One of the
17 proponent's employees at one of the open houses said to
18 me, and I quote: (as read)

19 "Well, you're going to be rich when we
20 sell all your property and they buy you
21 out. Why don't you just go build
22 another equestrian centre somewhere
23 else, what's the big deal?"

24 I think that was a very flippant, ignorant, degrading
25 comment. I think that was actually a comment that was

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1 abusive. Obviously someone who is not self-employed who
2 has no idea of what it costs to rebuild, time, energy,
3 disruption of your business to rebuild, the
4 inconvenience, the disturbance to our entire lives.

5 I've had six businesses in my life, and it really
6 takes about three years to get those businesses
7 established where they're properly fully functioning.
8 So you can see the concern of that.

9 I could go build -- or buy a beautiful place in
10 Longview if I have to move from here, but the business
11 there would not be successful because the businesses we
12 have in the Springbank community are successful because
13 of location, location.

14 My equestrian centre is successful because women
15 can drive 15 minutes and come and see and ride their
16 horse and take a lesson. They're not transferrable.

17 It's very difficult as business people with this
18 project ending to make any long-term or short-term
19 business plans, and it's not a nice feeling to have
20 someone else ruling your business success or your
21 personal lives. It's very depressing. It's not a nice
22 way to live, and we landowners have lived with that
23 horrible feeling for eight years.

24 It's the feeling of indecision and not knowing that
25 is the most difficult, whether somebody tomorrow is

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Questioned by Mr. Heaney

1 going to come and take your land. Very stressful, very
2 psychologically draining. I've looked at the -- at
3 property from here to the Alberta US border for a ranch
4 that is similar; there is none. It is not comparable,
5 and that's because these are old ranches where we live.

6 A lot of us landowners have employees and
7 contractors that work directly from our facilities. I
8 have a full-time instructor trainer, for instance, that
9 lives in the heritage house and all these employees, and
10 contractors will lose their jobs and their homes because
11 most of them do live on site.

12 I also, as Karen said, was quite upset by the
13 constant Alberta Transportation saying that the cost
14 increase was not significant when it went from 230 to
15 432 million. I think that's significant.

16 I think we need to remember this isn't a road from
17 Edmonton to Calgary that we just have to build and there
18 is no choice. There is a choice here and there is a
19 better one and that's MC1.

20 As far as Crown consultation and land use, in the
21 last few years, I have done over 32 tours of this ranch
22 on my own time. Government officials, environment, all
23 sorts of groups, media, et cetera. I've toured nine
24 different Indian tribes. There are teepee rings,
25 medicine wheels, buffalo hollows on Jan and my property

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1 close to the heritage house.

2 I initially informed the Tsut'ina of the sacred
3 camping site that's close to the house in hopes that
4 they would be allies to us in our opposition to SR1.

5 The natives weren't aware of that site at the time.
6 They were aware of the Stoney Trail which crosses
7 through the ranch and through a lot of the other
8 landowners, Brian's and a lot of the other landowners'
9 land.

10 Every one of those tours, there was eight to ten
11 people. I even toured Montana Indians.

12 My family gave Tsut'ina permission to have a
13 sacred ceremony at that site right down at the camping
14 site there when Lee Crowchild was the Chief.

15 I hosted a staging site for the unity ride where
16 people came that were opposed to SR1, and we rode from
17 here to the Tsut'ina rodeo grounds. After that,
18 Roy Whitney was later elected and the opinion greatly
19 changed. And Tsut'ina withdrew their opposition for a
20 payout of 32 million.

21 I really question whether it's morally ethical that
22 the government is allowed to pay people out for their
23 silence. We question whether a decision, therefore,
24 will be made on science, environment, and most
25 importantly, communities if people are just allowed to

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Questioned by Mr. Heaney

1 be muted by payments out.

2 And I guess the question if other communities or
3 landowners have been offered the same payout for that
4 same price.

5 As far as land acquisition, they are saying they're
6 going to appraise our properties. I know there was a
7 statement from one of them saying they were only doing
8 desktop appraisals. I find that very unacceptable. You
9 do not know what has gone into the infrastructure of
10 these landowners' buildings, properties, houses, all
11 sorts of infrastructure there is on farms and ranches.
12 So, that, I don't feel, is a fair way of doing it at
13 all.

14 I think we have to remember that money we do get
15 will be taxed hugely, 30 percent or so. So what we
16 really get, I don't know as far as the value at the end
17 whether we'll be able to even relocate and reconstruct
18 what we previously had before.

19 Other. As far as the design and safety, of course,
20 my immediate family, I'm very, very afraid to live here
21 now. Our ranch and house is going to be very close to
22 the intake, and I'm very afraid of failure and backflow
23 and obstruction because if that happened, we'd be the
24 first to be obliterated.

25 Pipelines. I have a good friend in TransCanada

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Questioned by Mr. Heaney

1 Pipeline that recently told me that the price they are
2 thinking about the TransCanada Pipeline moving is about
3 24 million. Alberta Transportation estimated at the
4 beginning 2 million.

5 And there's also Plains Midstream's got two
6 pipelines. They're estimated at 10 million. So we've
7 gone from 4 million what they estimated to now perhaps
8 34 million. I think that's, again, greatly
9 underestimate -- that's the way Alberta Transportation
10 greatly underestimates in order to make SR1 look
11 superior.

12 Road building, utilities, those are all exceedingly
13 expensive.

14 Alberta Transportation suggested that hunting will
15 be allowed on this site. I question the legality of
16 that. The *Firearms Act* states that firearm hunting must
17 be at least 50 yards from a road and cannot hunt across
18 a roadway -- from or across a roadway. It's illegal to
19 discharge a weapon within 200 yards of an occupied
20 building.

21 Section 38 of the *Wildlife Act* states: (as read)
22 "No person shall hunt wildlife or
23 discharge a firearm on or over occupied
24 land or enter such land for the purpose
25 of doing so without the consent of the

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Questioned by Mr. Heaney

1 owner, the occupant."

2 So what Alberta Transportation was proposing is illegal.

3 As far as water, I think the most important thing
4 about water is human life and safety, highly
5 underestimated by the committee, especially of
6 groundwater.

7 I'm wondering whether Alberta Transportation is
8 taking seriously at all, in a flood event, septic tank
9 overflow management, raw water of any sort that is not
10 palatable. How are they going to manage that?

11 So let's talk about water palatability, and let me
12 give you an example.

13 The Redwood Meadows sewer pump station is about 100
14 yards south of my property. In the flood of 2005, '6,
15 and '13, their pump station overflowed and there was
16 about 20 acres of my property flooded with raw sewage,
17 grey water, and there's a gravel pit right next to the
18 entrance of my house, it totally filled, about 40 feet
19 deep. Then it flowed back into the Elbow and back into
20 the Calgary water source. This contaminated water would
21 contain breeding grounds for E. Coli, giardia, beaver
22 fever, (indiscernible), West Nile Virus, very toxic to
23 humans.

24 I had to move my horses out of that field for three
25 weeks and feed them elsewhere.

SCLG PANEL

Questioned by Mr. Heaney

1 My children and I spent two days with bovine
2 obstetrical gloves, that's rubber gloves up to our
3 shoulders picking up stool, tampons, condoms, and all
4 sorts of other disgusting material that was in the waste
5 from this. City of Calgary came and visited the site
6 and they did nothing.

7 So I think this is just a prime example of what
8 overflow can do from saturated groundwater, and how
9 septic lines and things are not being taken into account
10 when SR1 floods the entire meadow over there.

11 As far as land and air quality, et cetera, as a
12 rancher, I really would like to say that, once this land
13 is gone to this project it's gone forever. We just
14 cannot keep taking fertile farmland and grazing land for
15 the benefit of urban use as it is only Calgary that
16 benefits from this project. Let's all remember where
17 our food comes from. We need to keep green space and we
18 need to use viable agricultural land wisely, what it's
19 meant for, not a monstrosity like SR1. Far better
20 choice, it's MC1.

21 Up at MC1, it's a chaotic mess from the 2013 flood
22 at Allen Bill Pond there. We could clean that up to
23 make MC1. I'm just a real big believer that if you have
24 any disaster in life, that you should turn it around and
25 try to make something positive out of it. This is

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Questioned by Mr. Heaney

1 something we could make positive out of it. We could
2 clean up the MC1 and Allen Bill site, build a wet dam
3 that would be good, again, for all those other things.
4 There's houses there, there's buildings there, there's
5 infrastructure already started. We can make MC1 as a
6 far more positive alternative.

7 Wildlife, again, highly underestimated by
8 Alberta Transportation. I was a guide outfitter for
9 25 years, owned the largest hunting concession in
10 North America. My son is CEO of Bear Trust
11 International, a group that's the largest organization
12 for education of habitat, conservation and research of
13 bears around the world. My children now own that
14 Yukon Territory and very involved with wildlife. So the
15 thought of this project and the impact that it's going
16 to have on wildlife has very much disturbed them.

17 They have -- that Jumping Pound elk herd is very
18 sensitive and a very high population, and I think we
19 really need to take that into consideration on this
20 being a much more important issue.

21 Alberta Transportation said they're going to move
22 the elk. Well, I don't know how they're going to do
23 that, whether they're going to chase them with horses or
24 whatever, but you don't just move elk, okay?

25 My children have been directly involved, like very

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Questioned by Mr. Heaney

1 directly involved, with several wildlife transplants in
2 Canada and the US, wild sheep and elk, and the mortality
3 when you move wildlife from helicopters, even with the
4 best, and the best experts, the mortality is very, very
5 high.

6 So, again, very little impact to low populations of
7 wildlife at MC1, and the wildlife here is much higher
8 population. If there was a dam at MC1, the wildlife
9 could just move to higher elevations. Rescuing
10 wildlife, as they discussed, not realistic.

11 I'd like to talk about silt management, and if I
12 could get them to look at my slides that I have on my
13 PowerPoint under silt management, if you would, please.

14 MS. OKOYE: Document manager, could you please
15 pull up the opening presentation from Ms. Robinson?
16 What page are you referring to?

17 A. MS. ROBINSON: It's about three pages down.
18 They're all labelled. You'll see they're all labelled;
19 you can just go up from there. Keep going. There's
20 general flood damages.

21 I can just go over these right here. You can see
22 some of these terrible flood damages to the ranch.
23 That's right below the arena there; you can see the
24 river is high as anything. This is the road down to
25 our barn and things; you can see how terribly high the

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Questioned by Mr. Heaney

1 water was.

2 Next slide. That was right next to the arena.
3 You can see the river there is, you know, half a mile
4 across.

5 Next slide. That's the floodwater, flooded my
6 entire field in front of my house, and that was
7 actually the next day. So it actually had gone down
8 from there.

9 Carry on, next slide. That's just some workers
10 that I had trying to divert part the -- of the river so
11 it wouldn't hurt the arena as much.

12 Next slide. And that is the field in front of my
13 house totally covered in water. And this is the field
14 down below; there's my feeding grounds for my cattle.
15 Right down by the traffic circle there, that was up to
16 the top of the banks, 10 feet water there.

17 Next slide. This I should just show you. When I
18 talked about the groundwater saturation from the
19 Redwood Meadows sewer, this is a pipe that they put
20 from the pump station southerly trying to get rid of
21 the water, but it just flowed south. And then it went
22 west, and then it came back north, and it crossed my
23 property, and it flooded 20 acres.

24 Next slide. And that's the raw sewage just
25 gushing out of pipe, and there it is flooding my -- the

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Questioned by Mr. Heaney

1 raw sewage flooding my hayfield there.

2 Next slide. And there it is at the end of the
3 field, and you can see the wildlife there that are
4 devastated by what's happening.

5 Next slide, please. This is where the
6 Redwood Meadows pump station came out of that hole
7 there like an absolute tap. Therefore, very much
8 exemplifying underground water and how much this
9 project is going to contaminate all of the wells, all
10 of the underground water.

11 Next slide, please. There's the hole in the
12 ground that's full of raw sewage that did recede in
13 about four days.

14 Next slide, please. I want to talk about silt and
15 how it has highly been underestimated by the proponent.

16 This is my corrals, and if you don't think there
17 isn't silt deposits, there is an example of how
18 terrible that was. There was silt deposits about 4
19 feet in a lot of areas of the property. Along the
20 river right close to my property, I spent eight days on
21 the Bobcat trying to find my fences and dig them out of
22 the silt.

23 Next one, please. And that's the -- about four
24 days after the flood had gone away, and that was the
25 silt that I had to deal with. Animals had to be moved

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Questioned by Mr. Heaney

1 from this site. These silt deposits at the reservoir
2 will be firstly a big bog of sticks and garbage and
3 things. And then they're going to dry. And as you can
4 see, that's what they're going to look like.

5 Because the winds are always westerly, anything
6 Springbank below that reservoir is just going to blow
7 terribly. And those silt particles we've talked about
8 how small they are, they're microscopic, and they
9 actually get into the alveoli of the lungs. That is
10 where the carbon dioxide and the oxygen exchange
11 actually happen. And that's what they're going to
12 clog.

13 So the silt dust is going to be very harmful for
14 respiratory function. And again, let's remember
15 there's homes and residences downstream of SR1, and
16 what about all the school children that are right
17 adjacent to there? Common sense dictates that this
18 will just be a terrible disaster.

19 They say they're going to truck this silt away and
20 take it somewhere. It's going to be toxic waste, so I
21 don't know really where they're going to put it. And
22 again, the cost of that trucking, it will be very, very
23 high. Again, MC1, none of that problem.

24 In these silt, there has been weeds that I have
25 never seen before on the ranch: Bracteosa (phonetic)

SCLG PANEL

Questioned by Mr. Heaney

1 which is poisonous to animals and cattle; Kosia
2 (phonetic), which grows about 6 feet tall, very coarse
3 stalk, very hard to kill; Canada thistle, all of them
4 very difficult to kill when it comes to chemicals.

5 Next slide, please.

6 There's just some more damage that was done to our
7 corrals on the north quarter down there. All of the
8 infrastructure there was totally demolished.

9 Next slide, please. You can see here this is the
10 back of a garbage and sticks, and you can see right
11 there, there's shingles and plastic and all sorts of
12 things that have backed up against our fence.

13 Next slide, please. And there it is the following
14 day. Thousands and thousands of hours of work to clean
15 up and rebuild.

16 So this is what landowners will be -- again, going
17 to be subject to if just SR1 is done. Okay? That's
18 why MC1 is, in our opinion, all of this damage, you
19 know, to houses no matter where you are, above the SR1
20 site, they need to be taken into consideration. Like
21 the damage at Redwood and Bragg Creek, it was terrible.

22 So in conclusion, I just want to say that SR1 is a
23 one-purpose project made for one group, and that's
24 Calgary. And it disregards everyone else.

25 MC1 has the benefit of multiuse project, far

SCLG PANEL

Questioned by Mr. Heaney

1 better capital investment for Alberta, much greater
2 foresight to future generations and water supply
3 because they say we're going to be out of water in
4 Calgary by 2040.

5 SR1 benefits one community; MC1 benefits all
6 community and landowners.

7 MC1 encompasses positive benefits of managing
8 flood, drought, fire, and recreation and will not
9 destroy families or communities. It will benefit
10 everyone fairly.

11 I hope these facts are the important issues that
12 the Board will take into account seriously.

13 So I just respectfully submit to the Board that
14 MC1 is built instead of SR1; it is a far superior
15 project for the public interest. And I believe it's
16 the public interest of all communities that is the
17 mission statement of what the Board is to make their
18 decision on.

19 Thank you very much.

20 Q. Thank you, Ms. Robinson.

21 So go to Ms. Feist.

22 THE CHAIR: And just before you do, thank you,
23 Ms. Robinson, very thorough presentation, heartfelt.
24 Thank you.

25 A. MS. ROBINSON: Thank you.

SCLG PANEL

Questioned by Mr. Heaney

1 Q. Ms. Feist.

2 A. MS. FEIST: Yes.

3 Q. And Ms. Dusdal.

4 A. MS. DUSDAL: Yes.

5 Q. Are you both together?

6 A. MS. FEIST: Yes.

7 Q. There has been evidence prepared and filed on your
8 behalf in this matter, that being the SCLG group
9 submissions filed as Exhibit 247; your submissions,
10 Exhibit 250 at PDF pages 11 to 27. Ms. Dusdal
11 submissions Exhibit 250, PDF 53, and Exhibit 251. Are
12 these documents accurate to the best of your knowledge
13 and belief?

14 A. MS. FEIST: Yes, they are.

15 Q. Do you adopt them as part of your balance evidence in
16 this proceeding?

17 A. MS. FEIST: Yes, I do.

18 Q. Can you also have Ms. Dusdal?

19 A. MS. FEIST: Yes.

20 Q. Is she there?

21 A. MS. FEIST: Yes.

22 Q. Ms. Dusdal, do you also adopt the evidence, the
23 documents as part of your direct evidence in this
24 proceeding?

25 A. MS. DUSDAL: Yes.

SCLG PANEL

Questioned by Mr. Heaney

1 Q. Thank you. All right. So we -- you've already seen
2 the map that was pulled up on the screen before. I
3 don't want to waste time going over that again. Are
4 your lands shown on that map correct?

5 A. MS. FEIST: They're correct.

6 Q. Perfect. Can you please provide the Panel an overview
7 of your concerns with this proceeding.

8 A. MS. FEIST: Yes. Thank you, Mr. Chair and the
9 NRCB Panel, for hearing my testimony today. I'm
10 Tracey Feist, fourth generation from a Springbank
11 farming family. I hold a science degree from the
12 University of Idaho, professional designation from the
13 Canadian Public Relations Society.

14 THE COURT REPORTER: Hello.

15 Q. Can you slow down?

16 THE COURT REPORTER: Yeah, I'm sorry, I really need you
17 to slow down. So from a fourth generation...

18 A. MS. FEIST: Yeah, sorry. I'm a fourth
19 generation from a Springbank farming family. I hold a
20 science degree from the University of Idaho, a
21 professional designation from the Canadian Public
22 Relations Society and am a former corporate affairs
23 director with over 25 years of experience in
24 agricultural communications.

25 I'm here today representing my family, my mother

SCLG PANEL

Questioned by Mr. Heaney

1 Marlene Dusdal, and my late father Gary Munro
2 (phonetic). We endorse everything Karin Hunter has
3 presented.

4 I wish to address Topic 1: Project Need and
5 Justification." As adjacent landowners to the SR1
6 diverging structure, we are gravely concerned with the
7 lack of consultation our provincial governments have
8 afforded us. We are hopeful that the NRCB will
9 responsibly review the material presented and consider
10 the social, economic, and environmental impacts of the
11 proposed SR1 project.

12 My family has resided on the south half of section
13 11-24-4 west of the fifth, since 1965. My mother owns
14 the north half of section 2-24-4, west of the fifth.
15 We offer historic understanding of the land, Pirmez
16 Creek and the Elbow River from 60 years of occupancy.

17 We are fundamentally perplexed as to why our
18 voices are only being heard eight years later.
19 Millions of dollars have been spent on this project to
20 date. Both the former NDP government and the current
21 UCP government were opposed to the SR1 project prior to
22 being elected. Why did it take seven years for elected
23 officials to give my family an opportunity to offer an
24 important contextual history of our land.

25 Landowners in this area are an important

SCLG PANEL

Questioned by Mr. Heaney

1 stakeholder group and SR1 has been the "project de
2 jour" since the very beginning.

3 My southwest and southeast quarters are located
4 directly east of the SR1 diversion structure across
5 Highway 22. The history of my land is important as the
6 headwaters of Pirmez Creek begin on the southwest
7 quarter of section 11. This pristine underground
8 aquifer flows year round, travelling two and a half
9 miles east and empties into the Elbow River.

10 Pirmez Creek provides a location for environmentally
11 sensitive brook trout to spawn. My family has
12 protected and managed it as part of the Cows and Fish
13 Program, Exhibit 250, page 17, to ensure its health and
14 has prevented any degradation to the creek. A report
15 from Alberta Environment and Parks is unsettling:

16 (as read)

17 "This project as proposed will present a
18 high risk to fish populations in reach
19 of the Elbow River. Additionally, it is
20 also the opinion that bull trout may
21 eventually become extirpated from this
22 stream, which given the unique life
23 history characteristics of bull trout in
24 the Elbow River."

25 Exhibit 187, page 3.

SCLG PANEL

Questioned by Mr. Heaney

1 These facts are important because at no time did
2 anyone from the proponent or AEP contact me or my family
3 to monitor the fish in Pirmez Creek. I can only
4 correlate and conclude that if the bull trout are
5 extirpated so are the brook trout, which feed into the
6 Elbow, which then feeds into the Bow River, giving it
7 its blue ribbon fishing status.

8 I believe the proponent and Stantec are not
9 designing the SR1 project to protect us from the
10 possible maximum flood. In the draft environmental
11 assessment report. It states: (as read)

12 "An off-stream dam failure or breach
13 could occur due to flooding.

14 Additionally, overtopping could occur if
15 the floodwater volume exceeds the
16 probable maximum flood design and the
17 emergency spillway fails to operate as
18 anticipated (due to design error or
19 debris blockage), or if the diversion
20 inlet gates fail to shut once the
21 reservoir reaches maximum capacity."

22 Exhibit 163 page 120.

23 A dam breach or failure could result in inundation
24 of surrounding areas, federal lands, lands used for
25 traditional or non-traditional purposes, as well as

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Questioned by Mr. Heaney

1 commercial and residential property and would have the
2 potential for human injury or loss of life.

3 Exhibit 163, page 121.

4 Considering that SR1 is classified as an extreme
5 consequence dam hazard rating, and the floodplain berm
6 is classified as a very high consequence dam, the design
7 capacity is far below what this rating demands.

8 Is there any possibility that any professional
9 engineer or government regulator would add their stamp,
10 signed signature of approval for this project and accept
11 the responsibilities for the consequences of dam
12 failure. That is Exhibit 159, page 26 and 27.

13 In that same exhibit, seven professional engineers
14 from Stantec provided their signature on a signoff sheet
15 with a stamp of "Professional Engineer, Alberta Licence
16 to Practice," but the paragraph above their signature
17 says: (as read)

18 "In preparing the document, Stantec did
19 not verify information supplied to it by
20 others. Any use which a third party
21 makes of this document is the
22 responsibility of such third party.

23 Such third party agrees that Stantec
24 shall not be responsible for costs or
25 damages of any kind, if any, suffered by

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Questioned by Mr. Heaney

1 it or any other third party as a result
2 of decisions made or actions taken based
3 on this document."

4 Exhibit 159, page 2.

5 Who's going to be responsible should this diversion
6 structure fail? Currently, due to my proximity to the
7 Elbow River, only one insurance company, the
8 Cooperators, will insure my farm for water damage, but
9 it only covers up to \$50,000, and my annual policy is
10 \$10,000.

11 Why is this important to know? Bob Sanford, EPCOR
12 Chair for Water and Climate Security at the United
13 Nations University Institute For Water, Environment and
14 Health explains in his book "Storm Warning" published in
15 2015: (as read)

16 "The frequency, intensity, and duration
17 of extreme weather events are already
18 increasing. Disasters with insured
19 losses of over 1 billion have occurred
20 every year for the past five years in
21 Canada alone."

22 We are also concerned about two major pipelines on our
23 property: TransCanada, built in 1962, and the Alberta
24 Ethane Development Company Limited, built in 1970. Both
25 natural gas pipelines carry 900 pounds per square inch

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Questioned by Mr. Heaney

1 of pressure.

2 In speaking with their officials in 2016, both were
3 against the project, and both reported that if SR1 were
4 to proceed, the company's policy would require the
5 pipelines be moved or lowered to at least 3 feet deep.
6 Exhibit 250, page 53.

7 We are in grave danger because if these 60-year-old
8 pipelines rupture or break, it will adversely impact my
9 300 acres of native grassland and my mother's hayfield;
10 it could endanger our lives, ruin houses, outbuildings,
11 and businesses. Who's going to protect species at risk
12 such as a brook trout or mitigate the loss of animal
13 life, the cattle, and multiple animal species who find
14 solace on our land? Who will repair fences and remove
15 contaminated soil and silt?

16 And what about the groundwater which flows into the
17 Elbow River? We endorse Exhibit 261 from Dr. John
18 Fennell. Pirmez Creek is a spring-fed creek, and the
19 groundwater on my property could be affected if SR1 is
20 approved and construction commences across the road from
21 me.

22 During the 1967 flood, my parents' basement on the
23 S.W. quarter of 11 had 3 feet of water in it. It was
24 not from the Elbow River flooding solely; it was because
25 of the water table rising.

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Questioned by Mr. Heaney

1 When the proponent began excavation of the current
2 roundabout or traffic circle at the junction of Highways
3 8 and 22, that construction and subsequent dugout
4 located at Kamp Kiwanis again directly west of my
5 property -- and this is a very small project in
6 comparison to SR1 -- damaged the underground water flows
7 and began to flood our homes in 2005, '06, 2011, and
8 2013. Yet overland flooding was a consequence of the
9 roundabout.

10 We met with government officials in both 2014 and
11 '16, and in both cases the government officials were
12 dismissive of our claims related to the detrimental
13 effects of groundwater.

14 The proponent reports that the potential effects of
15 groundwater quantity and quality have been assessed in
16 the EIA and were determined to not be significant:
17 (as read)

18 "Not only is valuable agricultural land
19 being taken out of service, but the
20 construction of a large earthen dam
21 structure designed to contain up to 77.8
22 million cubic metres of water over 730
23 hectares is concerning from a
24 hydrogeological and geochemical
25 perspective, as well as geotechnical.

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Questioned by Mr. Heaney

1 Unfortunately, no exploration of the
2 geochemical aspects has occurred beyond
3 assessing baseline groundwater quality.
4 The residents of Springbank obtain their
5 drinking water from wells mostly
6 complete in the underlying bedrock, yet
7 there's been no assessment of how the
8 existence of SR1 could impact the
9 groundwater."

10 Exhibit 261, page 24.

11 The government of Alberta has not assessed the
12 potential damage associated with rising or changing
13 groundwater levels on my land, nor have they analyzed
14 our wells for potential impacts or safety. This isn't
15 just another little red pin on a map on a wall in
16 someone's office. This is uncultivated native
17 grasslands that offers significant biodiversity.

18 My father made a living from this land and raised a
19 family here. He observed over decades that whatever
20 happens upstream from us aboveground affects what
21 happens below ground. He knew from working on the land
22 365 days a year since 1965 that groundwater and surface
23 water are directly correlated where one ultimately
24 becomes the other.

25 What he observed is quite simple; anything we do

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Questioned by Mr. Heaney

1 upstream is going to impact the amount and quality of
2 water we send downstream. All scientific reports prove
3 he was right.

4 We need to be thinking 100 years down the road. As
5 the population of Calgary and this rural area increases
6 and climate change quietly continues, it becomes even
7 more important that we understand how groundwater
8 affects the Elbow River, both the quantity of it and
9 quality and our impact on it, but most importantly, how
10 we protect it.

11 With importance of the native grasslands, Item E,
12 train and soils in Topic 5, my property is native
13 grasslands that offer significant biodiversity and is a
14 threatened and endangered habitat: (as read)

15 "The Nature Conservancy of Canada states
16 they are more in danger than coral reefs
17 and rain forest. Grasslands hold water
18 during a flood. If grasslands are gone,
19 so is their deep-rooted natural system
20 of water infiltration and carbon
21 storage. Carbon storage and water
22 retention are far more effective than
23 pine and spruce forests."

24 End quote, Exhibit 250 page 235.

25 The SR1 project fails on multiple levels. Its

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Questioned by Mr. Heaney

1 escalating costs are not being truthfully reported to
2 Albertans. Albertans and their tax dollars are paying
3 for this unproven untested dry dam infrastructure.

4 Let me be clear, no one wants to see the city of
5 Calgary flood. However, we need to hold our elected
6 officials at all levels accountable. They are obligated
7 to provide infrastructure that achieves its intended
8 objectives without creating unnecessary risks and
9 negative consequences.

10 We need to preserve a safe and viable water supply
11 for our future. Why? Because the Elbow River supplies
12 drinking water to 40 percent of the city of Calgary.
13 That equates to one in six Albertans.

14 The Elbow River is not a big river; it's just
15 one-tenth of the size of the Bow River: (as read)

16 "Water is a limited resource, and our
17 water supply is changing due to climate
18 change and a growing population."

19 It's Exhibit 347, page 1.

20 What we need is a storage reservoir located
21 upstream on government Crown lands. A reservoir would
22 serve multiple purposes. Not only would it manage flood
23 levels during environment events; it would offer fire
24 and drought mitigation for Foothills communities. It
25 would store water for a growing city of Calgary. It

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Questioned by Mr. Heaney

1 would manage the appropriate water levels on the
2 Elbow River to mitigate future flood events.

3 And finally, it would offer a place for all
4 Albertans to recreate and enjoy sustainable
5 infrastructure for multiple generations.

6 We must learn from extreme weather events. They
7 disrupt lives, impact economies, alter and stress
8 ecosystems. They also impact health, insurance, and
9 liability.

10 Calgary must protect its upstream water sources and
11 establish a sustainable water supply to serve its
12 growing population for the next 100 years.

13 A dry dam does not make sense. This issue needs to
14 be about water conservation, water as a resource, not
15 waste, science, not politics, holding our elected
16 officials accountable to serve us all, not just specific
17 special interest groups.

18 Water is our most precious natural resource in this
19 province. We should not squander the opportunity to
20 manage it properly.

21 I'll finish with a quote from noted water
22 researcher Dr. John Pomeroy, the Canada research Chair
23 in water resources and climate change at the University
24 of Saskatchewan. In Colette Derworiz's article titled
25 "Three years later - lessons being learned from the 2013

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1 flood" from the June 2018 -- pardon me, June 18th, 2016,
2 edition of the *Calgary Herald*. Pomeroy was quoted as
3 saying: (as read)

4 "The 2013 flood in Alberta shows all
5 signs of climate change."

6 And he elaborated that building a dry dam would only
7 serve as a security blanket. Pomeroy said there's no
8 doubt Calgary needs to be protected from future flooding
9 due to the location of its downtown, but the big
10 question is how.

11 Still Pomeroy said building a dry dam to protect
12 the City doesn't make sense: (as read)

13 "A dam can allow people to feel safe in
14 an extreme event. The dam can be
15 overtopped and fail. Most dams have
16 more than one purpose. If you're going
17 to go to the trouble of building a dam,
18 you might as well operate it year round
19 and use it to moderate the river for
20 droughts. That's why -- that's part of
21 why that idea seemed like a strange idea
22 to me."

23 And we couldn't agree more.

24 We request the Board to deny the application.

25 Q. Thank you, Ms. Feist. Ms. Dusdal, do you have anything

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Questioned by Mr. Heaney

1 to add?

2 **A. MS. DUSDAL:** No, I think she said it well.

3 **Q.** Perfect, thank you.

4 **THE CHAIR:** Thank you, Ms. Feist.

5 **A. MS. FEIST:** Thank you.

6 **Q. MS. OKOYE:** Mr. Marshall Copithorne, are you
7 there?

8 **A. MR. M. COPITHORNE:** I'm here.

9 **Q.** Okay. So there has been evidence prepared and filed on
10 your behalf in this matter, being the SCLG Group
11 submissions filed as Exhibit 247, your submissions
12 filed as Exhibit 250 at PDF 62. Are these documents
13 accurate to the best of your knowledge and belief?

14 **A. MR. M. COPITHORNE:** They are.

15 **Q.** Do you adopt them as part of your evidence in this
16 proceeding?

17 **A. MR. M. COPITHORNE:** Yes.

18 **Q.** And you previously had shown Exhibit 249, which is a
19 map showing all the land locations?

20 **A. MR. M. COPITHORNE:** Yes.

21 **Q.** Did you see that?

22 **A. MR. M. COPITHORNE:** Yes, I did.

23 **Q.** Your land location on that map, is that correct?

24 **A. MR. M. COPITHORNE:** Some of it, yes.

25 **Q.** Okay. So you have more that are not shown?

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Questioned by Mr. Heaney

1 **A. MR. M. COPITHORNE:** Much more.

2 **Q.** Okay. All right. So can you give the Board an
3 overview of your concerns with this project?

4 **A. MR. M. COPITHORNE:** May I proceed?

5 **Q.** Yes, please.

6 **THE CHAIR:** Yes, please.

7 **A. MR. M. COPITHORNE:** To the Chair and to the members of
8 this Board, I wish to extend my thanks and appreciation
9 for the privilege of being able to appear before you
10 today.

11 I'm 84 years of age. I'm a proud Albertan, and
12 I'm a Calgary booster. I've been with the Calgary
13 Stampede since late 1960s, and I'm an honorary life
14 director to this day, and I'm concerned with what
15 happens in Calgary.

16 We have operated a historic ranch; it was
17 established in 1886 by my grandfather, and I still live
18 and work on that ranch with my family.

19 Our ranch headquarters are three miles west of
20 Highway 22, but as you can see, we have property that
21 adjoins some of the concerned areas.

22 This is not what concerns me about this dam. I'm
23 not an environmental technician; I'm not a wildlife
24 specialist or technical expert. I haven't really got
25 any particular formal education. I do consider myself,

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Questioned by Mr. Heaney

1 though, a conservationist, a keen observer and a
2 participant in the true history of what really makes
3 Alberta work on the eastern slopes and especially in
4 the area west of Calgary.

5 I know a lot about grass, I know a lot about
6 trees; I know quite a bit about water management. I'm
7 a cattleman only to the extent that I know how to use
8 cows to harvest that crop in probably the most
9 efficient manner and convert it into topnotch human
10 food.

11 My concern is that responsible agricultural
12 practices and marketing of a truly renewable resource
13 are completely underestimated and unnoted by many of
14 the panelists and many of the people who speak and
15 speak in favour of SR1.

16 I do not question the need for flood mitigation;
17 nobody could. I'm totally committed to the embracement
18 of the correct solution, which I will try to express.

19 As hard as it is to express to you, SR1 is a
20 flawed project. Fresh water, potable water, and clean
21 water is the greatest of all natural resources.

22 Alberta and Canada are the envy of the world with this
23 God given endowment.

24 Good soil and agriculture are the next greatest of
25 all assets to humanity and the world's future. Why

SCLG PANEL

Questioned by Mr. Heaney

1 would Alberta of all places put forward an unproven
2 project like SR1 that blatantly ignores these former
3 two facts?

4 With listening to this morning's dialogue, I
5 recognize that, with SR1 in place, we do not protect
6 Calgary. In fact, 80 percent of the damage could still
7 occur in Calgary with SR1 and, to me, that's
8 ridiculous.

9 The history of Alberta from the beginning denotes
10 periods and cycles of drought and plenty of water and
11 drought.

12 I think Mr. Palliser in his travels in 1850 noted
13 that "the Palliser triangle" was a defunct area, as far
14 as he could see agriculturally because there was no
15 water.

16 Let's never forget that.

17 There is some things that really bother me. In
18 the presentation this morning with regard to folks in
19 Calgary, and it seemed to me that private land and
20 property rights and homes in the City of Calgary are
21 more important than private property out in the
22 country. What are we teaching our kids these days?
23 That bothers me. Should we let this continue in our
24 society or should someone stand up and say this is
25 enough?

SCLG PANEL

Questioned by Mr. Heaney

1 I'd like to advise this Board to the fact that,
2 whether you're in business or whether you're in
3 government, it's never too late to reverse a bad idea
4 or an investment. It will enhance Alberta's
5 credibility for future generations to come. Cut and
6 move on from our suffering Alberta taxpayers' sunk
7 costs into SR1. Excite anxious Albertans with a
8 better, comprehensive, multiuse plan to address the
9 longer term future of this great province.

10 We need optimism in this country, we need optimism
11 in Alberta, and I have a problem, again, with the
12 attitude that seems to prevail among the media and
13 among big city folks with the importance of agriculture
14 and the significance of it to the country.

15 There's an easy way out. If you want to capture
16 the enthusiasm and support of agriculture and rural
17 Alberta, start thinking ahead. We all had to think
18 ahead. Everything we do is based on ten years into the
19 future. Our investments go that way, and I think it's
20 time we started as a province to think that way.

21 This huge financial investment we have for this
22 SR1 is good for something that might happen. I know
23 this has been clearly identified, and it just -- it
24 just sticks with me. Why wouldn't we put that huge
25 investment and all our resources into a project that

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Questioned by Mr. Heaney

1 will serve this province and this community for the
2 next hundred years? Next thousand years?

3 You can't travel in a country in the world where
4 water isn't a concern, and in places that are short of
5 water, they sure look after the water. I've been to
6 Italy and I see aqueducts that were built 2,000,
7 3,000 years ago to accommodate drought and water
8 concerns, and those things are still working today,
9 some of them.

10 What's wrong with us? Why are we worried about
11 building a mud hole when we could build a resource that
12 would enhance the lifestyle and the productivity of
13 this province for a long, long time.

14 It just reminds of going back to the days of the
15 prairie homestead acts and the settlements on the
16 special areas, there was a government decision from
17 Ottawa that no one had ever experienced or ever
18 explored, and look at the damage that did to so many
19 people and so many families that came out here with
20 dreams and hopes. It was a flawed project from the
21 beginning and we never got over it. In fact, the
22 *Prairie Farm Rehabilitation Act* took over and did an
23 excellent job, pride of the prairies, really, in terms
24 of water conservation and how to perform agriculture.

25 I think that we need to give our thoughts forward

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Questioned by Mr. Heaney

1 to this and I compliment some of the comments that were
2 made before. There were some excellent presentations
3 which I totally support.

4 And I really support some of the comments by
5 Mr. Rae this morning for the Stoney Nakoda tribe. He
6 mentioned agriculture, he mentioned food production, he
7 mentioned farmers, he mentioned native people on their
8 land. We don't get this from the government anymore,
9 and I'm sorry about that.

10 At any rate, that's my submission, and thank you
11 for the opportunity to present.

12 Q. Thank you, Mr. Copithorne.

13 THE CHAIR: And on behalf of the Panel,
14 Mr. Copithorne, thank you very much for that
15 presentation. Much appreciated.

16 Q. MS. OKOYE: Lee Drewry. Are you there?

17 A. MR. DREWRY: I'm here.

18 Q. There we go. There has been evidence prepared and
19 filed on your behalf in this matter, that being the
20 SCLG Group submissions, Exhibit 247; your submissions,
21 Exhibit 250, PDF 50 to 51.

22 Are these documents accurate, to the best of your
23 knowledge and belief?

24 A. MR. DREWRY: Yes, they are.

25 Q. Do you adopt them as part of your evidence in this

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Questioned by Mr. Heaney

1 proceeding?

2 A. MR. DREWRY: Yes, I do.

3 Q. So, on Exhibit 249, did you see the map that was up
4 before --

5 A. MR. DREWRY: Yes, I did --

6 Q. -- that showed all the land locations. Can you give
7 the location -- I'm sorry.

8 A. MR. DREWRY: I saw the map. I'm very familiar.

9 Q. Is the location of your land on that exhibit correct?

10 A. MR. DREWRY: Yes, it is. We are the owners of
11 the -- my wife Diana and I are the owners of the
12 northeast and northwest quarters of section 26 that
13 form the northeast boundary of this project area.
14 We're about four and a half kilometres away from the
15 Elbow River and the property has never flooded
16 in...maybe geological time.

17 Q. Okay. Thank you. Can you provide the Panel with an
18 overview of your concerns for this project?

19 A. MR. DREWRY: Yeah, I will. The concerns are
20 entered into evidence as you have indicated, so I won't
21 go through all of them there. There are a couple I
22 would like to highlight.

23 We're very concerned that, at the north end of the
24 project area that we'll very likely potentially never
25 flood, but if it does, it will be very rare. Even

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Questioned by Mr. Heaney

1 though it's a very rare possibility that those lands
2 will flood, according to the government's land use
3 plan, it doesn't look like we'll be able to continue to
4 ranch it, so -- I don't know why that would be, but it
5 doesn't appear that landowners and ranchers and people
6 in the agricultural industry get much influence or
7 consideration in that land use plan.

8 We're also concerned that the fire risk of
9 ungrazed land will be substantial as the, again, the
10 land use plan proposed by the proponent doesn't allow
11 for grazing leases, it might allow for grazing permits,
12 but it's really not very clear on what will happen to
13 the land. Land needs to be grazed in order to keep a
14 fire risk down, particularly in that area.

15 We are concerned about the air quality and the
16 ground quality. We don't live on the land, we live in
17 Calgary, actually, but we're concerned that this
18 project would keep us from ever building on the remnant
19 land that we may keep, or our daughter who I think
20 would probably like to live out there even more than we
21 would.

22 We're very concerned about firearm hunting in an
23 area that's currently bow hunting only, and we're
24 concerned that property rights seem to have been
25 abandoned by the proponent who could quite easily have

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Questioned by Mr. Heaney

1 built a viable project on Crown land, but instead chose
2 this -- chose this project. And I mean, let's be
3 clear, this project does represent one of the largest
4 land grabs in modern Alberta history.

5 The project essentially extinguishes our family
6 ranching operations, the lifestyle, the history which
7 goes back, similar to Mr. Copithorne, my wife Diana and
8 Brian Copithorne are brother/sister, and so that
9 history goes back to the 1800s, and this project will
10 essentially extinguish the ranching that has been
11 continuous in our family for all of that time.

12 There are a couple of things, if I could, I'd like
13 to comment on Exhibit 325. I don't think you need to
14 bring it up, document manager, but I will make
15 reference to it, and I just don't think you need to
16 bring it up.

17 The proponent in 325 in a couple of different
18 locations references a "land acquisition plan" that was
19 developed and shared with landowners in 2018. I'd just
20 like to point out that that was requested by landowners
21 in 2017, and it was six months later that it was
22 provided to landowners. So it was not the action of a
23 benevolent proponent, but, rather, it was a very
24 delayed response to a request from landowners.

25 Again, from Appendix C in the record of

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Questioned by Mr. Heaney

1 consultation, there's a reference to a meeting,
2 January 27th, 2020, with Alberta officials, Alberta
3 Transportation officials and politicians.

4 My name is on the list of people who attended that
5 meeting. I'd like to assure the Board that I did not
6 attend that meeting. My name may have been on the
7 presentation that may have been discussed in that
8 meeting, but I was not present. And that's again
9 Appendix C record of consultation.

10 Interestingly -- and, again, in 325, the
11 government makes a claim that sediment modelling has
12 not changed since 2014. I found that fascinating and
13 surprising because, in the early days of discussion
14 about this project with landowners, the government -- I
15 guess it would be Alberta Environment at the time, the
16 story to our landowner group was, "Why are you so
17 worried about this? As soon as the water goes down,
18 you can put your cattle back on the land and graze it,
19 so why are you making such a big deal out of it?" And
20 we continued to ask and ask, "Well, you know there's
21 going to be sediment," and, finally, years later they
22 admitted it.

23 So I'm kind of concerned and baffled by this claim
24 that they haven't changed their story on sediment for
25 the duration of this project. It was drastically

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Questioned by Mr. Heaney

1 different in the early days.

2 And, finally, with regards to Appendix I of the
3 proponent's rebuttal to interveners, I think Appendix I
4 has to deal with air quality.

5 The maps that are displayed, there's green
6 triangles on those maps that indicate residents, and
7 looking at that, it was immediate to me that there are
8 numerous residents that are not included in that -- in
9 that document, and I'm struggling to understand how
10 these residents -- residences could have been missed
11 during a simple mapping exercise. A simple look at
12 Google Maps, or better yet, a drive around the area
13 would show that these homes are in the area. It seems
14 to me this is, at best, poor work, and at worst, a
15 deliberate attempt to mislead.

16 So those are the concerns, I guess, a very quick
17 summary form that I have.

18 I do have some other thoughts on some things that
19 I've heard so far in the proceedings --

20 Q. Thank you, Mr. Drewry. Do you want to --

21 THE CHAIR: Thank you, Mr. Drewry.

22 A. MR. DREWRY: Yeah, I would like to share a
23 couple of comments. I think Ms. Hunter talked about
24 the unequal protection that has been afforded to -- or
25 would be afforded to people in Rocky View County

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Questioned by Mr. Heaney

1 downstream from SR1 versus those in Calgary downstream
2 from Glenmore Reservoir. And, again, I think she
3 referenced a comment by the proponent about those
4 people in Rocky View living close to the river, they
5 get -- you know, that's what they get for living near
6 the river.

7 So that, to me, is a theme throughout this whole
8 seven- or eight-year debacle that the rural communities
9 don't seem to matter as much as the -- as the urban
10 communities, and not even all urban communities are
11 treated equally. It seems the ones downstream from the
12 Glenmore Reservoir are treated better than the rest.

13 With regards to the City of Calgary's
14 presentation, I thought it was interesting that they
15 indicated they attempted to monetize the cultural and
16 historical values created within that flood zone area,
17 and yet I am not aware of any attempt by the proponent
18 to monetize the loss of the family history and the
19 agricultural history that would be decimated with the
20 proposed project. So I found that a bit disconcerting
21 that there's not an equal playing field in terms of
22 valuing that historical resource.

23 I guess finally with the Calgary River
24 Action Group, we all I think sympathize with the
25 tragedy that occurred, not only in Calgary but in all

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Questioned by Mr. Heaney

1 the communities in southern Alberta.

2 I was working in the downtown core in 2013. Part
3 of my team's role was to support the people who were
4 displaced, our company employees who were displaced by
5 the floodwaters, finding them temporary accommodation
6 and other support.

7 So I do have some direct experience with dealing
8 with people in the aftermath of the 2013 flood, and I
9 can say that I do have a lot of empathy and sympathy
10 with what people went through at that time.

11 It does seem to me that this solution that the
12 proponent is proposing and sadly that the River
13 Action Group is also championing, it's really a
14 transference of all of that pain and suffering onto
15 another community, and it just seems so senseless when
16 there is an alternative that could be done at a
17 location that doesn't have those same negative
18 consequences for a community.

19 Finally, I'll make a couple of observations
20 generally, and this has to do with the proponent's
21 responses to key intervener witnesses. And I'm
22 thinking specifically of Mr. Dowsett and Mr. Klepacki
23 and probably others.

24 The proponent claims that these witnesses'
25 testimony should be discounted because the proponent

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Questioned by Mr. Heaney

1 feels they have a vested interest. Well, if that's the
2 case, then who doesn't? Who doesn't have a vested
3 interest?

4 All the Stantec evidence, all the Alberta
5 Transportation evidence has been submitted. It should
6 be similarly discounted because people have put their
7 careers, Stantec's company reputation will be severely
8 impacted by the success or failure of this project; I
9 can't imagine anybody more conflicted than them.

10 The Calgary River Action Group, they want to
11 protect their lovely riverfront homes in Calgary, so
12 they're conflicted.

13 We all have a vested interest, and that should not
14 keep our expertise from being recognized, nor should it
15 keep our voices from being heard and fairly considered.

16 Q. Thank you, Mr. Drewry.

17 THE CHAIR: Thank you, Mr. Drewry, on behalf
18 of the Panel, thank you.

19 A. MR. DREWRY: Thank you, Mr. Chair.

20 Q. MS. OKOYE: Ms. Jan Erisman, are you there?
21 Ms. Jan Erisman, are you there? Okay. I can see you,
22 but I think you're on mute.

23 A. MS. ERISMAN: Sorry about that.

24 Q. There has been evidence prepared and filed on your
25 behalf, that being the SCLG Group submissions,

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Questioned by Mr. Heaney

1 Exhibit 247, and your submissions, Exhibit 250, PDF 233
2 to 234, and you also submitted an article on Owens Lake
3 that was filed as Tab 21 of Exhibit 275. Are these
4 documents accurate to the best of your knowledge and
5 belief?

6 **A. MS. ERISMAN: Yes.**

7 **Q.** Do you adopt them as part of your direct evidence in
8 this proceeding?

9 **A. MS. ERISMAN: Yes.**

10 **Q.** Can you provide the Panel with a brief overview of your
11 concerns?

12 **A. MS. ERISMAN: Yes, I can, thank you.**

13 Thank you, Board and Chair, for taking the time to
14 hear me speak.

15 Infrastructure should make Alberta bigger,
16 stronger, and better. During the dirty 30's, the
17 Saskatchewan government put men to work digging a lake
18 on Wascana Creek so that men could feed their families.

19 They also hired a world renowned landscaper to
20 design Wascana Park.

21 Today Wascana Lake has increased the value of real
22 estate in Regina and is one of the most used parks in
23 Canada.

24 90 years ago, the government of Saskatchewan knew
25 how to invest in the future and improve the quality of

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Questioned by Mr. Heaney

1 life in Regina through thoughtful use of infrastructure
2 dollars and to create flood mitigation.

3 So what is Alberta doing in 2021? Alberta with
4 SR1 is deciding to create a dried lake bed full of silt
5 on purpose in a windy, semi-arid land right next to a
6 very large city where there's evidence that this will
7 be a multimillion-dollar maintenance bill for years to
8 come and every time the diversion is used.

9 Owens Lake is a dried lake bed in California, the
10 largest single source of dust pollution in the United
11 States. I do not understand why Alberta would choose
12 to create an Owens Lake dust issue, but create an Owens
13 Lake ecological disaster on purpose.

14 California has already spent \$2 million on
15 Owens Lake dust issues, and it appears the only
16 solution is add water, costly water.

17 The fact that the silt -- and the fact that the
18 silt will build up and the dust pumps have not been
19 considered in the decision-making process for SR1 is
20 appalling. Fugitive dust is invisible and goes into
21 your lungs quickly. The dust plumes can travel 150
22 kilometres and puts even the city of Calgary at risk.
23 The errors and omissions brought to light now at this
24 hearing on the dust issue shows that this is an
25 important health issue.

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Questioned by Mr. Heaney

1 Erosion risks run from moderate to severe. The
2 timing of mitigation cannot stop the dust. There is
3 going to be fugitive dust created by this project.

4 A wet dam has one dust construction period; SR1
5 creates a whole new set of dust issues every time it is
6 used, and the silt will build up over time. Bulldozing
7 and moving the silt will be required for drainage.

8 I drove to Bragg Creek on March 13th. I counted
9 50 bikers along the drive, and the traffic was
10 non-stop. So will we be biking with masks?

11 By the way, when you consult the new silt map
12 remember that all of that lovely rolling land filled
13 with brush and trees will have to be bulldozed to allow
14 this diversion to drain after 8 to 40 inches of silt is
15 left behind and to keep the dust down.

16 When does it make sense to bulldoze, create
17 fugitive dust in the tourism and biking corridor?
18 Please note the cost to recreational activities,
19 biking, and hiking have not been considered or
20 addressed by this government.

21 I did ask at the last Alberta Transportation
22 presentation how much of the land would be bulldozed.
23 He didn't know, but they said they'd get back to me and
24 took my email. No one ever got back to me or answered
25 the question.

SCLG PANEL

Questioned by Mr. Heaney

1 But it appears from the new silt map that maybe
2 80 percent of the total footprint is going to be
3 bulldozed and covered with silt, which is a big
4 problem.

5 The silt crust is broken easily walking or
6 driving. So how does the Indigenous walk in the salt
7 and how does the garbage get picked up without
8 releasing more dust?

9 Unacceptable levels of fugitive dust are in the
10 picture if mitigation is not done in this timely
11 fashion and it works. California has dumped millions
12 on the dust issue. Will we?

13 An acquaintance of mine worked on a B.C. dam doing
14 soil sampling; he's now on disability due to lung
15 damage cause by fugitive dust from working closely with
16 silt.

17 Fugitive dust is a growing issue for the
18 construction site safety and also for the diversion's
19 long-term maintenance and health and safety, yet it is
20 not mentioned by Stantec or Alberta Transportation as a
21 cost or a consequence of this project.

22 I must thank the NRCB for restoring my faith in
23 democracy. Had you not given our group the funds to
24 double-check the facts that were given from Alberta
25 Transportation and Stantec, our community, our bikers,

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Questioned by Mr. Heaney

1 our hikers, our tourists, Calgary and Alberta would
2 have unknowingly been submitted to dust plumes that
3 travel hundreds of kilometres. Now we know the dangers
4 of the fugitive dust that must be addressed for the
5 health and safety of Albertans.

6 The heritage book *Chaps and Chinooks* states it
7 best: (as read)

8 "Since 1883, such records have been kept
9 up by the Meteorological Society of
10 Canada, and they indicate a regular
11 alternation of wet or dry years."

12 That was written in 1976.

13 So why is the province of Alberta choosing to build
14 infrastructure that's only used in wet years in 2021?
15 In the seven years that Stantec and Transportation have
16 tried to figure out how to make this project work, many
17 things have changed. New water design concepts by
18 Bill Gates and Nutel (phonetic) Energy have opened the
19 door to harnessing the extraordinary power of rivers in
20 a way that replenishes ecosystems rather than harming
21 wildlife.

22 Alberta should be embracing the latest technology
23 with waterfalls for power generation, wetlands for
24 groundwater recharging, and a deepwater lake with no
25 silt flats exposed for fire and drought mitigation.

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Questioned by Mr. Heaney

1 There's a reason no one is building dry silt beds,
2 but they will be building wet dams with new technology
3 and theory that a wet dam has multiple uses and meets
4 climate change criteria.

5 Mitigation for dust must be included in the cost of
6 this project as an ongoing and unending cost to
7 taxpayers. ATCO dug up my yard for a new gas line, put
8 down new topsoil and seeded. I got water. I got
9 80 percent weeds that I had to pull by hand. Three
10 years later, I have swatches of grass.

11 The cost weed and dust control but be borne by the
12 Alberta taxpayer, not Rocky View.

13 We have public land by my home. Public land close
14 to the city is very subject to trespassing and partying,
15 creating a high fire hazard. This will be public land,
16 and they say there's not going to be a whole lot of
17 supervision.

18 My home just about burned down a few years ago. A
19 water bomber full of water just happened to be at the
20 Springbank Airport, and they watered down the houses.
21 We lost the barns, and we fought with brooms, and we got
22 the fire out one house away from mine. Without that
23 water bomber at the airport, we would have lost many
24 homes.

25 This project is creating a fire hazard on two main

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Questioned by Mr. Heaney

1 tourism highways, and it is not helping us to fight the
2 next grass fire.

3 We could be building infrastructure projects that
4 give Alberta a Wascana that makes Alberta bigger,
5 stronger, better. We could be building infrastructure
6 projects that are part of solving climate change,
7 creating clean water for Indigenous people, building
8 tourism, building our tax base, and creating water
9 storage and fire suppression. But we're not. SR1
10 creates degradation of our beautiful tourism corridor,
11 and the health of a large area of Alberta will be
12 inhaling dust.

13 The people of Alberta need to know the truth. The
14 misleading advertising of the Springbank reservoir must
15 stop.

16 People believe they're get their getting a
17 Glenmore Reservoir, a lake with lovely walking paths.
18 Instead, we're getting a very costly industrial park
19 full of silt, garbage, and a fire hazard in front of a
20 multimillion-dollar Rocky Mountain vista.

21 We request the name "Springbank" and "reservoir" be
22 removed from the name and request a name changed to the
23 "Elbow River diversion." Our community doesn't want our
24 name associated with this project, and it is not a
25 reservoir. And I do feel it's very misleading that they

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Questioned by Mr. Heaney

1 advertise it as such. As matter of fact, they sent out
2 a newsletter, and the last one calls it just "Springbank
3 reservoir"; they're not even adding the other part in.

4 Thank you for your time. Thank you in advance for
5 the experts that need to give Alberta a Wascana. More
6 than ever, Alberta needs diversity and forward-thinking
7 economics for infrastructure that makes money and does
8 not create a tax burden for Albertans.

9 I believe as a Canadian. It is our duty to make
10 sure we're leaving Canada a better, bigger, stronger
11 country for our future generations. This project does
12 not.

13 And lastly, just from hearing all of the reports, I
14 was very concerned to hear Alberta Transportation
15 constantly say that all of the costs would be borne by
16 the local municipalities. And so it's very concerning
17 that the total cost of this project is way higher and
18 that they are passing the cost on. In reality, it's all
19 coming out of the same pot.

20 Q. Thank you, Ms. Erisman.

21 A. MS. ERISMAN: Just two more things. I just
22 wanted to say on recreation, because I was on
23 the -- I've been on the Rocky View West Rec Board, that
24 the number one request is river access. And we would
25 need it for the fire department, but also for public

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Questioned by Mr. Heaney

1 access, and that has not been considered in this.

2 And secondly, on a historical note, because I'm
3 also on the Springbank Historical Society, 14
4 historical structures are being destroyed, and when
5 they did their original analysis, it was like there
6 weren't any. And there are 22 archeological sites that
7 are compromised. So I just wanted to bring those to
8 your attention.

9 And lastly, my last thing, 30 percent of Alberta
10 is private land. So I really don't understand why
11 we're using private land that makes us money, rather
12 than Crown land when we have the bulk of Crown land.

13 Thank you very much for your time. I agree, I
14 think there's been some really good presentations and
15 we've all learned a lot. Thank you.

16 Q. Thank you, Ms. Erisman.

17 THE CHAIR: Thank you, Ms. Erisman.

18 MS. OKOYE: Mr. Chairman, we are 7 minutes to
19 5:00. Do you want us to continue? We've got two more
20 people left.

21 THE CHAIR: You have two more people.

22 Just a quick question on potential cross, length
23 of cross, Alberta Transportation, do you have an idea,
24 if you're going to cross, how long that might take.

25 MR. FITCH: Mr. Chairman, good afternoon, it's

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Questioned by Mr. Heaney

1 Gavin Fitch. We are still -- I'm not certain how long
2 we'll be. I think we indicated we would want up to,
3 was it 90 minutes? I don't see us using all that time,
4 but we're not certain. But we don't think it will be
5 all that long, to be honest.

6 THE CHAIR: I think, yeah, the request may
7 have come as well, we did a little rejigging in terms
8 of when landowners were presenting versus some that are
9 expert testimony later on, so that might have changed
10 your numbers as well.

11 But it looks like we're going to be tight for
12 time, you know, for today, to complete SCLG, I think
13 that might run us a little bit too late, Ms. Okoye.

14 But why don't we get one more and see how that
15 goes. Do you know how long your other two folks will
16 be?

17 Because I think the Board will have some
18 questions. Mr. Kennedy has indicated he has some
19 questions. So we'll likely do the questioning tomorrow
20 morning, but perhaps we might be able to complete your
21 last two, Ms. Tegtmeyer and Ms. Massey; right?

22 MS. OKOYE: That's correct.

23 THE CHAIR: And how long do you think those
24 will take?

25 MS. OKOYE: I think Ms. Massey will take about

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Questioned by Mr. Heaney

1 20 minutes; Ms. Teghtmeyer probably less than
2 10 minutes. Am I correct, Ms. Teghtmeyer?

3 I see she says yes. So that would be less than
4 10 minutes for her, and 20 probably for Ms. Massey.

5 THE CHAIR: Okay. Any objections from parties
6 if we can see if we can get Ms. Teghtmeyer and
7 Ms. Massey done before we close today? Any objections?

8 MR. FITCH: No objections from
9 Alberta Transportation, Mr. Chairman.

10 THE CHAIR: Okay. Hearing none others, please
11 proceed. Let's see if we can get these done before
12 close today, then.

13 MS. OKOYE: Okay. Perfect.

14 Q. Ms. Teghtmeyer, referring you to your submissions
15 Exhibit 247 and 250, at PDF 81 to 88, are the documents
16 accurate to the best of your knowledge and belief?

17 A. MS. TEGHTMEYER: Yes, they are.

18 Q. And do you that adopt them as part of your direct
19 evidence in these proceedings?

20 A. MS. TEGHTMEYER: Yes. Excuse me. I haven't used
21 my voice for such a long time now.

22 Q. Can you please provide a Board with an overview of your
23 concerns?

24 A. MS. TEGHTMEYER: All right. I am from Bragg Creek.
25 I live right along beside the river, and as you see,

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1 sometimes in the river. I grew up here, and have spent
2 most of my adult life. So I do have experiences with
3 the river.

4 Mr. Chairman and Board members, I really
5 appreciate the opportunity of speaking to you today. I
6 have to tell you that I'm speaking from my heart with
7 my -- some observations and some experiences that I've
8 had through the years.

9 We live, as I said, right beside the river. So
10 any time there's high water, we are inundated with
11 groundwater as is all of Bragg Creek.

12 Furthermore, 80 percent of the runoff comes from
13 the headwaters, and we're the closest ones to the
14 headwaters. So, of course, we get it first. And when
15 we start pumping, then the other neighbours think,
16 okay, in so many more hours, they're going to have be
17 pumping, and the neighbours below them, the same thing.
18 So groundwater is our nemesis.

19 The worst of the floods that I've experienced, of
20 course, was 2013, and I noticed that someone in the
21 City of Calgary said that there were no floods between
22 the '30s and '90s to speak of. Well, I remember lots
23 of big floods in those years, and whether Calgary
24 didn't get them or we just got them or what, but 1948,
25 '63, '67, '68, '95 were all significant floods in our

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Questioned by Mr. Heaney

1 area.

2 So the flood of 2013 certainly impacted us the
3 worst, and it was exacerbated by the fact that a berm
4 built previously gave out, which directed the water
5 head-on into the berm in front of us, and, of course,
6 it ultimately gave out which affected the dynamics of
7 the flow downstream from us and did terrible damage to
8 businesses and homes in Bragg Creek.

9 Adding to that was that there is a gravel bar
10 which was allowed to build up in the centre of the
11 river in front of us, which, of course, gave no room
12 for the river.

13 And just -- so many of the points that the
14 previous presenters have given, I totally agree with,
15 so no need to go into that again, but if you don't mind
16 I will just show you some images of our place following
17 the 2013 flood.

18 So I'm wondering if you can bring up those
19 pictures for me.

20 Q. Sure, Ms. Teghtmeyer, 250, PDF 82. Perhaps she wants
21 to start with PDF 87. Perfect. Thank you.

22 A. MS. TEGHTMEYER: Yes, I just put this picture in
23 because this is the picture of our store and our home
24 attached to the back the day before the flood.

25 So now, the flood happens, and can you have the

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1 other side, please?

2 Q. Please go to PDF 82.

3 A. MS. TEGHTMEYER: Yes, please.

4 Q. Is that the page you're looking for?

5 A. MS. TEGHTMEYER: Yes, that will be fine. This is
6 looking down the river, the red in the background of
7 the picture is our place, and this is later on in the
8 flood because the brand has already been taken off, it
9 was taken off in one piece and floated down the river,
10 and the roof, we found the roof, sure enough, it was
11 hung up on a tree somewhere.

12 Next slide, please.

13 This is what we saw when we came into the store.
14 The river had no problem lifting a thousand pound
15 fridge and turning it around, and, of course, you see
16 that the front of it is completely gone.

17 Next slide.

18 This is -- I just wanted to show this one because
19 debris is so damaging. It's unbelievable the strength
20 and the force that debris can deliver.

21 My dad for 30 years built foot bridges across the
22 river, and it was never the volume of the water that
23 took it out. It was the big uprooted trees floating
24 down hitting the piers. Like battleships, actually.

25 Next slide.

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Questioned by Mr. Heaney

1 And this is the west side -- yeah, this was just
2 shovelling out silt, and there's -- I understand all
3 about silt. It is very hard to work with.

4 Next slide.

5 And this was the west side of the store. I'm
6 showing you the damage.

7 And another slide.

8 This is the repair process in which we had to have
9 movers come in and lift the -- put beams under and put
10 it up in blocks so that we could commence repairs.

11 Next slide.

12 And, again, this is more beams at the front of the
13 store, and you see where the river had been in the
14 bottom there, it's all riverbed at this point in time.

15 And I think there's one more slide that is maybe
16 missed. No. Go back. Sorry, take up your time. This
17 one -- no. Go up.

18 Q. You mean down.

19 A. Down. Down one more. Down one more. Okay.

20 This is inside our house, and the log, it was just
21 debris, came through our window, it swirled around,
22 came through the window there and went across the room
23 and smashed through the cupboard doors with such force
24 that it created a hole, a nice round hole, through the
25 solid oak cupboard door.

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1 And all these things on the counter and the shelf
2 there had come from the bedroom. And the thing with
3 the water, in our situation, it came in and it acted
4 like a washing machine because it couldn't get out, and
5 that's what caused so much damage.

6 Thank you. So that's all the slides I think I
7 have.

8 We were out of our house for over two years, and
9 out of the store for probably three years, fully
10 operational. For the first while we camped, and then
11 we lived in a rental house next door and, of course,
12 there was no electricity, no heat, no Internet, and a
13 port-a-potty for quite some time, and that's how we got
14 through the flood.

15 And now, of course, we have dikes, and people say,
16 well, everything is going to be fine with the dikes.
17 Of course, no matter how high the dikes are built, the
18 groundwater is still going to invade us, and we will
19 always need to pump during high water table.

20 And it's noteworthy to note that the dikes were
21 rejected by the Calgary communities because, true
22 enough, they are ugly, destructive prevent access to
23 the river, and unenvironmental as far as I can see when
24 building of these dikes in Bragg Creek, and in the case
25 of our dikes, extremely costly.

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1 And one other of my observations through the
2 years, through the many years that I've been here is
3 that the river flow is decreasing dramatically, and I
4 don't understand why consideration of future water
5 source wouldn't be part of the decision on flood
6 mitigation as well. And I think the reduced water flow
7 is very consistent with all of southern Alberta and in
8 the South Saskatchewan River Basin, and I would say
9 something like as serious as that would be strong
10 enough reason to have an upstream mitigation.

11 And just to be quick here, I have one more story,
12 and that's about dust and silt, and I certainly know
13 all about how to live through that, but after the flood
14 of 2013, the Bragg Creek Community Centre was turned
15 into a response centre, which was absolutely a
16 remarkable response centre.

17 The lady handling the meals in very short time
18 frame put out 7,000 meals, and as you can appreciate,
19 the kitchen was very crowded, and so they decided to
20 set up barbecues and cook outside.

21 That didn't last very long because Alberta Health
22 came along and said, you are not too cook outside
23 because of wind borne spores contaminating the food,
24 and I think Springbank SR1 has a very serious
25 consideration there with dust and wind-blown particles.

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1 Then my conclusion is that the Alberta
2 government -- the Alberta people, wherever they are,
3 will be asked to pay for this costly and unusual and
4 dubious project, and I ask why it wouldn't be in the
5 best interest to serve as many taxpayers as possible,
6 and I think MC1 serving five communities with multiple
7 benefits, I think even as I hear what the Calgary
8 people say, they want tax -- they want flood
9 mitigation. So does it matter if it's flood mitigation
10 at SR1 or MC1? They're going to get protection, and I
11 think that's what they're after.

12 And I guess that's why I'm speaking to you today,
13 because in terms of today, we're all in this together,
14 so I'm asking that we please do not leave out any
15 communities. Serve us all. Thank you.

16 Q. Thank you, Ms. Teghtmeyer.

17 THE CHAIR: Thank you on behalf of the Panel,
18 Ms. Teghtmeyer.

19 Q. The last one is Dr. Karen Massey.

20 Dr. Massey, you have evidence filed on your
21 behalf, SCLG Group submissions, Exhibit 247, your
22 submissions; Exhibit 250, PDF 128 to 232; your
23 previously filed submission Exhibit 151; your CV,
24 Exhibit 328 are the documents, and also an opening
25 statement that you want to use in your presentation.

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Questioned by Mr. Heaney

1 Are the documents accurate to the best of your
2 knowledge and belief?

3 **A. MS. MASSEY:** **Yes.**

4 **Q.** And do you adopt them as part of your direct evidence?

5 **A. MS. MASSEY:** **Yes, please.**

6 **Q.** Okay. If I may have you go ahead with your
7 presentation, please.

8 **A. MS. MASSEY:** **Okay. So I'm cutting this down**
9 **because I really appreciate everybody staying on a**
10 **little bit later so that I get my chance today. It's**
11 **much appreciated.**

12 So, first of all, I'm just going to give a bit of
13 an introduction about myself because I think it also
14 helps understand why I chose what I've chose to speak.
15 So leaving the screen up is great at the start of the
16 overheads.

17 So, first of all, I'll just introduce myself. I'm
18 a registered psychologist. I work out of my home in
19 Redwood Meadows and have done so for 17 years along
20 with part time in Calgary as well. So I feel I'm part
21 of the Calgary business. It's just part of me. And so
22 I work with typically people aged 12 and over, adults,
23 and a lot of trauma.

24 And I must also say that, right now, I'm
25 experiencing my own trauma, because over the last three

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1 days, we've got a family trauma happening, and so you
2 might notice in some of my references, I mix up 133 and
3 Exhibit 151, it's because my right brain, the
4 traumatized side of the brain, the emotional side,
5 hi-jacks my left-hand side of the brain, which is
6 trying to think things through, and that's what's
7 happening right now, actually.

8 So I'll settle here.

9 So I also wanted to bring up that I was a former
10 employee of the federal and provincial governments for
11 quite a number of years and, interestingly, for seven
12 years, I was a human resources manager at Alberta
13 Transportation, worked in the Twin Atria, which is
14 still there. So I have quite an understanding of
15 bureaucracy as well.

16 So I just wanted to add that we bought our home in
17 Redwood Meadows in the summer of 2004, having no idea
18 it was an floodplain. I think back then it wasn't on
19 anybody's radar to mention, oh, by the way, you're
20 buying on a floodplain, you might want to think about
21 that.

22 Fortunately, we bought a house that doesn't have a
23 basement. It only has about a 3-foot crawl space and
24 we've never flooded. You know, it was built in 1979,
25 never flooded, because it was properly built for the

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Questioned by Mr. Heaney

1 floodplain.

2 So, very thankful about that, but most of the
3 other people around here in Redwood Meadows, the 350
4 homes, most of them or a lot of them, I should say,
5 have full basements, and they didn't realize they were
6 buying on aquifers, and even in this house, they tried
7 to build a basement, a big hole under the kitchen area,
8 when they discovered oh, I think we have an aquifer
9 under our kitchen area, and they quickly redesigned the
10 home. So that was very smart.

11 So if we could just start with the slide, if I
12 could just say "next" and we'll roll through them as
13 quickly as we can. There we go.

14 So I chose, first of all, to look at what is the
15 truth about what is SR1 going to resolve and is it
16 going to cause us more problems, and we're looking at
17 those three aspects from the NRCB of: Environmental,
18 economic, and social.

19 So I'm going to try and cover all of these, and
20 the whole of the concept is for all the public.

21 Next please.

22 And so I picked out the definition of truth. It's
23 a quality, a state, a fact, a reality, or a belief. So
24 I encourage the NRCB to kind of look at that broader
25 picture of what is the truth here. We've heard a lot

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1 of presenters from our group here say, what about this,
2 what about that, does it make sense? It's not adding
3 up, we're not getting the information, and there's a
4 whole lot going behind the scenes that we'd like to
5 know what is the truth.

6 Next, please.

7 So I also just want to emphasize this, and as the
8 final speaker for our group, is that we're all in total
9 agreement, folks. We all want flood control, we want
10 flood mitigation if we look at it a bit broader, and --
11 but what we do want is flood management even more, if I
12 can make that point. We're all in this together.

13 Next please.

14 And I also want to emphasized the vision statement
15 here of foresight, and I think a lot of our speakers
16 today, in our group in particular, are saying, we're
17 kind of missing some of the foresight by the proponent
18 of what is going on. We're still focused on the 2013
19 need for a flood control, and now we've got all these
20 other things that have developed that have to be looked
21 at with foresight. Please.

22 Next, please.

23 So, then, look at the definition of foresight.
24 It's the ability to predict what will happen and what
25 is needed in the future. And all of our speakers

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1 before me are covering all these long lists of things
2 that's needed in the future.

3 Next please.

4 And so I wanted to highlight a few things for
5 Redwood Meadows, because we haven't really been heard
6 separately, and a lot of what I say pertains to
7 Bragg Creek as well, both of us upstream folks.

8 And both of us feel we're forgotten by the
9 proponent in the decision of due process, probably
10 because, initially, the proponent thought, oh, hey,
11 we're only looking at 17 people in these homes, in this
12 footprint; and then once they announced it, there was
13 that big surge and public opinion, and I believe that
14 just really focused that, yeah, we're right, this is
15 only 17 people.

16 And so then that's one issue, and then the other
17 thing is they alluvial aquifers, and Barbara has
18 mentioned it big time, and also the Copithornes
19 because -- I mean, there's a reason Springbank is
20 called "Spring bank." It's just full of these all
21 intertwined springs and aquifers that come off the
22 Elbow River and meander around.

23 So I think there's a lot to be said and we
24 experience that here -- I mean, pretty soon, once it
25 warms up a little bit, our pumps will be ready for

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Questioned by Mr. Heaney

1 those of us that have basements because already the
2 aquifers here and there will be starting to fill up
3 because spring runoff will be happening, and that also
4 pertains to Bragg Creek.

5 What else here?

6 So it's just all in all -- all our group is
7 looking at is, the SR1 doesn't make common sense when
8 you add up all of the problems that haven't been really
9 fully considered.

10 And also we want to remind you that Calgary is
11 planning some things for the upcoming problem with
12 water. It's been studied since the 1930s that the flow
13 of the Elbow River is declining, we know that the size
14 of the Calgary city is just continually growing, and it
15 reaches that gridlock in about 2035, '36, Mary said at
16 the latest 2040, somewhere in there, it's pretty well
17 guaranteed this gridlock is going to happen.

18 So Calgary is doing some preparation, but what
19 about us? We're upstream, we're going to be impacted
20 as well by that lower flow. Once again, are we being
21 forgotten? MC1 would be the answer.

22 And last one, then, is really a concern because
23 over these last seven, eight, nine years, there's
24 always been these rumours, and they aren't dying, of
25 the developers are waiting for the proponent to say,

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Questioned by Mr. Heaney

1 yay, to SR1 because it's not going to be temporary,
2 it's going to be permanent. It's like, how is that
3 good?

4 We've heard about all of these problems with the
5 silt and, well, diseases, lots of things, and we just
6 kind of wonder, and I ask that maybe we do some enquiry
7 with the proponent of why is this rumour continuing on.

8 Next, please.

9 And, here, speaking of silt, I took a picture last
10 summer in preparation for this presentation of the
11 Redwood Meadows forest. This is kind of later spring,
12 and this used to be a beautiful trail, it used to have
13 some flowers down by the river here, and I didn't
14 capture the dandelions and all the other weeds that
15 Mary is talking about, but they're all there, it's all
16 new, it's terrible. And this is quite a shocking
17 thing.

18 Next, please.

19 And so now I'll give you a short history of SR1.
20 A really condensed version. So August 26, 2014, it was
21 chosen and in the newspapers: The reason is it's
22 faster, cheaper, easier. Thought it was only
23 17 ranchers, hey?

24 And then as time went on, people like myself, more
25 in the Springbank community became aware and joined the

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1 ranchers for the "Don't Dam Springbank," which was
2 starting to develop.

3 And then we had these petitions done, we've got
4 the residents signing the document I wrote on behalf of
5 our voices.

6 And then things started happening that I really
7 question. The proponent then bought out our leader,
8 our leader of Don't Dam Springbank, amazing man,
9 Mr. Robinson. And, of course, he accepted, probably in
10 the -- least -- you know, into the range of millions,
11 and who wouldn't? I mean, it's a logical, good
12 business move. That's okay. And we just honour him
13 for being our leader for as long as he was there.

14 And then what happened was, we were so strong by
15 then, we were rolling and then, fortunately,
16 Karin Hunter became our leader, and she's amazing as
17 you can see.

18 So then the second buy-out was Tsuut'ina Nation.
19 Behind the scenes, obviously, negotiations were going
20 on, and then 32 million was done for the buyout. In
21 fact, it even said in the paper the next day, Tsuut'ina
22 Nation is bought out.

23 And then the next one, a few months later, again,
24 there was a behind the scenes, during in-camera vote,
25 Rocky View County of all things, I mean, kind of they

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Questioned by Mr. Heaney

1 double-crossed the residents, and they sold out to the
2 proponent for 29.9 -- we'll just call it 30 million,
3 and an additional undisclosed amount of money.

4 So it's very questionable about these buyouts,
5 because it questions then the merit of the whole SR1.

6 And then by that time, I was also -- I'd been
7 working on this document, this one -- let's see if I
8 get it right -- 151, I think it's the number, my
9 brain -- and so I wanted our Redwood Meadows and also
10 an influence that Bragg Creek was experiencing to have
11 our list of concerns.

12 So about six months later, I wrote and, of course,
13 I had the help of numerous residents here, pretty smart
14 community, fortunately, and so I --

15 MS. OKOYE: Dr. Massey, if I may interrupt.
16 Just to let you know you've got, if we stick to the
17 time, less than ten minutes left.

18 A. MS. MASSEY: No, I think I can pretty well do
19 it. I'll talk faster, then.

20 So, then, sometime on September 15, I put it in,
21 the document; September 16, I get a phone call from our
22 townsite. They're saying proponent is livid, that I
23 went ahead and --

24 MR. SECORD: Dr. Massey.

25 A. MS. MASSEY: Yes.

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Questioned by Mr. Heaney

1 MR. SECORD: It's Richard here.

2 A. MS. MASSEY: Yes.

3 MR. SECORD: Just for the court reporter, it's
4 been a long day for her, so don't speak faster and take
5 the time you need, okay? So, breathe. Thank you.

6 A. MS. MASSEY: Okay. Thank you, Richard. All
7 right. Appreciate that and appreciate being able to
8 slow it down a bit.

9 So then with the pressures that I was receiving on
10 those three days of discussion into what was happening
11 with the proponent and the nation and our townsite, I'd
12 given information that was being told to me about how
13 unhappy the proponent was, I chose to then -- I guess
14 you call it "go silent" for a while as requested.

15 And then, fortunately, the lease for our
16 Redwood Meadows got signed in February, and then I
17 immediately started to say, oh. Well, then I can get
18 in on being able to speak here today. And it's like
19 nine years of quietly -- it means a lot to me -- of
20 finally having my voice heard of how much this
21 beautiful land means to us and to be living on
22 Redwood Meadows, and you heard that from everybody else
23 who spoke today.

24 That's part of the trauma of this week, so -- but
25 it's very, very emotional. And so what I look at as a

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1 psychologist hat what's going on here with all of these
2 buyouts and pressure on me to go silent, I was so
3 thankful that our townsite said back to the proponent,
4 back to Tsuut'ina, "Canada has a freedom of speech."
5 And I have really speech to be here and tell our story
6 as best I can and so thankful.

7 But the part that really is a big concern for me
8 is what I would call -- I was doing some psychology
9 work and had my psychology view of things is that this
10 is bullying behaviour. This is like a bully in the
11 playground. This is like a bully in the workplace, "Do
12 what I say or else."

13 And I would also question from the taxpayers'
14 perspective of where is the accountability. I feel
15 that the other speakers in my group has mentioned this,
16 what's the truth about how much is really being spent?
17 And I think there's a real key concept here of speaking
18 to cost of construction of SR1 versus the total cost of
19 all moving parts of SR1. Moving parts like the two
20 bridges, moving parts like what everybody else is
21 saying about the maintenance, moving parts like what
22 about these elk and what's going on.

23 So I ask then that from the perspective of truth
24 that the NRCB look at the social, environmental, and
25 economic effects and get to full disclosure.

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1 And going forward I also suggest that the buyouts
2 of government that are probably going on and have for
3 many years for presentations, projects like this, that
4 there be full disclosure now. I mean, this is what we
5 expect and want as taxpayers is we're paying this
6 money, and there's social media is becoming more
7 powerful and we're more well informed. Freedom of
8 speech.

9 Next please. And so they we move into the mental
10 health. And I'll touch on a little bit here of how the
11 emotions from the right brain will hijack. And when
12 there's emotion going on like with the flood, it
13 overrides all the logic in the world. And I think
14 maybe that's part of the bleed-over, I don't know, but
15 I just put it out there, as well, as another factor of
16 everybody that was involved in the SR1 project are
17 thinking, We have known friends and family that were
18 impacted because it was a huge impact as you know to
19 everybody.

20 And so there might be some sort of unusual thing
21 going on of a vicarious trauma, just put that out
22 there. Emotions override.

23 Next please. And also there was a Bragg Creek
24 hamlet survey and the Redwood Meadows survey. I got
25 the Bragg Creek one entered frankly because it wasn't

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Questioned by Mr. Heaney

1 technology enough to get the Red one off the PDF to
2 actually get it put through. But that's another side.
3 So both of them are basically saying that both
4 Bragg Creek and Redwood Meadows residents were surveyed
5 in a separate reports. We both agreed that safety is
6 paramount, safety for ourselves as an individual, for
7 our families and for our groups. We want to know that
8 they're going to be there after the next flood because
9 berms are kind of questionable.

10 And so we asked them in our CV to have that
11 foresight to prevent the social crisis that is being
12 recognized that the mental health is part of a social
13 crisis. And we kind of asked to forget about ourselves
14 and the importance of our own mental and emotional
15 health. We must be more aware of that going forward.

16 Next please. And so that leaves me to what one of
17 my neighbours told me about because I'm not a
18 left-brain person. He said, "There's not thinking
19 about the sunk cost balancing. There's this concept
20 where people tend to invest money, and they throw good
21 money after bad and refusing to look at cutting one's
22 losses."

23 And that is -- the best example is where the whole
24 country, England, the parliament and that of France
25 joined forces and said, "Yeah, the Concord's best thing

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1 ever for what we're assessing is the best option type
2 of plane to be built."

3 And so wants once they got building the Concord,
4 they started hearing, "That's not going to work, that's
5 not going to work." But they never listened.

6 So now it's become one of the big references in
7 universities and financing of the Concord fallacy.

8 So do we want that to become the SR1 fallacy and
9 then there's a subcategory of a planned continuation
10 bias?

11 Next please. And so I've alluded to the berms
12 because that's a really big issue for us here, that
13 there's total reliance on just the berms. And we know
14 that 1995, 2005 should have been sort of held, but all
15 the riprap and thousands of dollars that's been spent
16 on in some kind of poof for the most part down the
17 river.

18 And particularly in the case of 2005 because we
19 happen to have big riprap. We were one of the first to
20 get the delivery, and these huge, huge boulders. Then
21 when 2013 flood came, just tossed down the river and
22 probably contributed considerably to why the west side
23 of the Highway 22 was -- the bridge was closed down for
24 repairs.

25 And of course, then more thousands of dollars had

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1 to be spent creating more riprap. And also in both '05
2 flood and '13 flood, it impacted our water treatment
3 plant quite a lot and quite expensively as well.

4 So then it comes to this AMEC. This is
5 fascinating. So this to me is the truth because AMEC
6 is a proponent's consultant at the time and they're
7 saying berms are an incomplete solution. And they go
8 on to say on a residual flood risk, we shouldn't
9 consider ourselves safe because of a one-line defence
10 such as dikes.

11 And they go on to say why does this matter?
12 Because there's always a risk. We've seen that in the
13 1995 flood, the -- the 2005 flood and the 2013.
14 There's always a risk.

15 And of course, with the 2013 here in Redwood, the
16 berms started to be breached. And next slide, please.

17 THE CHAIR: Excuse me, Ms. Okoye and
18 Mr. Secord, you know from my rough guess, you're just
19 about halfway through on the slide presentations if it
20 is Slide 14 out of 23, and we are at 5:30.

21 So I really do want to give everybody, the
22 landowners, their chance to speak, but I also want to
23 be respectful that we've already gone late, and we are
24 keeping everybody late.

25 So, you know, I guess I'm wondering how much

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1 longer or should we complete this tomorrow morning?

2 A. MS. MASSEY: I'd say give me how about five
3 minutes?

4 THE CHAIR: That would be great, okay, thank
5 you, Ms. Massey.

6 A. MS. MASSEY: Thank you for asking.

7 Yeah. So then I also want to make the point that
8 berms are useful because they have annual erosion going
9 on, and the money is well spent. So we thank you for
10 the continuing support of berms.

11 Next please. And so then the key is here upstream
12 velocity and the volume is what is impacting us so when
13 that is not managed upstream, we get hit by a
14 downstream.

15 And I happen to be actually walking our dog,
16 and -- Tamminga -- and he's the author of this research
17 for 2013. And they happened to be on the berm shortly
18 after the 2013 flood and gathering the data. And they
19 said they do that every year as part of that monitoring
20 it by Cenovus. And so that's when he then wrote as
21 part of his PhD dissertation that there was
22 catastrophic erosion.

23 Next please. So we're losing our berm every year
24 because of catastrophic erosion because we have no
25 volume control. And it's not only just the floods;

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1 it's spring runoffs that happens. And spring runoff
2 pressure, it goes and hits our aquifers. And then more
3 and more people have to pump or have flood damage.

4 Next please. Pardon me, can you just hold on one
5 sec? Mary Robinson actually -- I think she forgot to
6 say this is that she reports that hundreds of metres of
7 their ancestral lands since the 1880s has been eroded
8 due to annual floods because they've been on the lands
9 since the 1880s.

10 So we ask that there be foresight in looking at
11 more bigger picture.

12 Next please. And here's the after-erosion from
13 the 2013 flood. We used to be a able to walk out
14 there, it's kind of nice gradual walk out. And now
15 look it, that's about an 8- to 10-foot drop to the
16 river now.

17 And see all those 70-foot trees; you can't see
18 them because of the picture. But those are 70-foot
19 trees, many of which were then -- and Mary actually
20 said this something else interesting. She figures
21 because she's down by the intake and obviously looked
22 at it, looked at the size of the 70-foot trees, "It's
23 probably going to take five of those to start plugging
24 up the intake." Just putting that out there.

25 Next please. And our mayor at the time said we're

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1 within one hour of losing everything. One hour. The
2 berms didn't hold, there were three parts where it's
3 breaching, and we're so thankful to Calgary for over
4 200 volunteers that came out that Friday morning and
5 sandbagged like crazy. Thank you.

6 Next please. And here's a little bit of an
7 insurance loss, and you can see that the -- as
8 mentioned by other speakers, it's getting bigger and
9 more expensive. There's things that happen with
10 climate change, I think so.

11 Next please. Oh, what's happened?

12 THE CHAIR: I think that's right.

13 A. MS. MASSEY: All right. All right. And these
14 notes on the screen are just a request that we have for
15 Redwood Meadows that we be included with the proponents
16 please for the groundwater monitoring mitigation plan.

17 Next please. And also the water quality
18 monitoring, as well, I think that is only fair that we
19 be included in that and maybe consider Bragg Creek.
20 I'm not too sure.

21 Next please. And then just to conclude, this is
22 the fabulous elk herd that you've heard about, and this
23 is where I'm sitting on the Springbank Road. It's
24 getting my grandson to hockey, and all of a sudden over
25 the highway, everybody is stopping and thundering

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1 ahead. And then there's a ditch, and the elk jump
2 that, and then they head up to see about two-thirds
3 which is just the normal.

4 Last one, please. This is our little guy who's
5 very busy looking for some food, and I hope there's not
6 muck instead.

7 And thank you so much for letting me speak. Thank
8 you.

9 MS. OKOYE: Thank you, Dr. Massey. Thank you,
10 SCLG members. And thank you, Panel, for the
11 opportunity for the extra time given.

12 Just to remind you that you still have to come
13 back tomorrow morning for questions, I believe,
14 Mr. Chair.

15 THE CHAIR: Yes, that's correct. And thank
16 you, Ms. Massey, and thanks for accommodating and
17 speeding that up a little bit at the end there to gain
18 some time, much appreciated.

19 You know what, on behalf of the Panel, I would
20 like to say that, you know, the presentations, the time
21 committed by all landowners, those of the Calgary River
22 Communities Action Group, those of the SCLG, SR1
23 Concerned Landowner Group, very well done. You can
24 feel the emotion by all landowners. The Board
25 empathizes with that. We understand where you're

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1 coming from, but we also appreciate the time that
2 you've committed to very professional, well-organized
3 presentations. So a big thanks to all of you.

4 So tomorrow morning, I think we can adjourn for
5 the day, tomorrow morning 8:30 start. We'll get at the
6 cross-examination, so yes, the landowners on SCLG for
7 tomorrow morning for any questions that folks may have.
8 Sign on is 7:45, and start time is 8:30.

9 Any other housekeeping or any other matters anyone
10 wants to raise prior to the close?

11 MS. OKOYE: Yes, Mr. Chair, just three things:
12 The presentations that were used, I think it might be
13 best to mark them as exhibits so that if there are
14 questions, it's easier to refer to them.

15 THE CHAIR: Yes, and perhaps, let's see, who
16 do we have? Do you want to submit those or do you want
17 to do those now?

18 MS. OKOYE: They are submitted to Ms. Friend,
19 so we have the first one as presentation by
20 Ms. Karin Hunter.

21 THE CHAIR: Okay, so that is No. --
22 Ms. Friend? Where is my last number here?

23 MR. KRUHLAK: 352 it will be, I believe.

24 MS. FRIEND: Actually, no, if you can give me a
25 minute, more items came in this afternoon. So I'm just

1 calling up my list. It will be 354.

2 **EXHIBIT 354 - PRESENTATION BY**

3 **KARIN HUNTER**

4 MS. OKOYE: 354. Okay. Presentation by
5 Mary Robinson.

6 THE CHAIR: And excuse me, just before we
7 proceed. Do I hear any objections to entering these as
8 exhibits, the presentations made by SCLG members?

9 Hearing none, let's proceed. Sorry, go ahead.

10 MS. OKOYE: Mary Robinson presentation,
11 perhaps we mark that as Exhibit 355.

12 MS. FRIEND: Yes.

13 **EXHIBIT 355 - PRESENTATION BY**

14 **MARY ROBINSON**

15 MS. OKOYE: Presentation by Dr. Massey that we
16 just heard 356.

17 MS. FRIEND: Yes.

18 **EXHIBIT 356 - PRESENTATION BY**

19 **DR. MASSEY**

20 MS. OKOYE: Thank you. That's all,
21 Mr. Chairman.

22 THE CHAIR: Thank you. Have a good evening
23 everyone, thank you, and see you tomorrow morning.

24

25 PROCEEDINGS ADJOURNED TO 8:30 A.M., MARCH 24, 2021

1 Certificate of Transcript

2

3 We, the undersigned, hereby certify that the foregoing
4 pages 272 to 588 are a complete and accurate transcript of
5 the proceedings taken down by us in shorthand and
6 transcribed from our shorthand notes to the best of our
7 skill and ability.

8 Dated at the City of Calgary, Province of Alberta, on
9 March 23, 2021.

10

"Lorelee Vespa"

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Lorelee Vespa, CSR(A) CRR RPR
Official Court Reporter

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"Deanna M. DiPaolo"

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Deanna M. DiPaolo, CSR(A)
Official Court Reporter

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